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ADDENDUM # 2: Eagles Landing Golf Course Kitchen Remodel

Date of Addendum: 6/28/24

NOTICE TO ALL BIDDERS AND PLANHOLDERS

The Bid Documents for the above-referenced Project are modified as set forth in this Addendum. The original Bid Documents and any previously issued addenda remain in full force and effect, except as modified by this Addendum, which is hereby made part of the Bid Documents. Vendors will take this Addendum into consideration when preparing and submitting a bid, and will acknowledge receipt of this Addendum in the space provided in the Bid Documents.

BID SUBMITTAL DEADLINE

The bid submittal time has not been changed.

1.0 – QUESTIONS AND ANSWERS

The following questions and answers are provided as a matter of information to clarify issues raised about the Bid Documents.

Item	Questions and Answers
1.1	Is it correct that the owner is purchasing all the kitchen equipment? No, the solicitation states the kitchen equipment is part of the solicitation.
1.2	Door Schedule A601 indicates an aluminum door/frame- please provide a specification. Please see attached specification section #084113.
1.3	Door Schedule A601 indicates (2) fiber reinforced plastic doors/frames- please provide a specification. Please see attached specification section #081221.
1.4	Detail S2/A601 indicates bituminous dampproofing at typical exterior door thresholds, but it is not indicated at other exterior wall sections. S002 indicates waterproofing is to be applied to all foundation walls. Please confirm the dampproofing/waterproofing requirements, and provide a specification. Damp proofing is required on all foundational walls. Please see section 071326 in the specifications book.
1.5	Addendum 1 provided specifications for signage, but none appears to be indicated on the plans; please clarify. No signage required.

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1.6	In reading all of the general electrical specs and the electrical prints, There are on print E003 “lighting control devices” “products” Listed as: time switch B) Electronic time clock C) Outdoor photoelectric switch D) Daylight sensor they do not show up on E101 “lighting plan” or E201 “Electrical power plan. Can we verify if these are generic Electrical specs or am I missing something? Some items listed within the specifications may not apply to this project. However, when it comes to the time clock, one is required for the restroom exhaust fan as noted within the schedule listed on drawing M301.
1.7	We are going through the Addendum #1: Eagles Landing golf Course Kitchen Remodel, in section 01500-2/section 2.2 Temporary Facilities and section 3.3 Support facilities. Please confirm the general contractor is to provide a field trailer and a support trailer in our proposals. Temporary restroom facilities shall be provided by the successful vendor to provide bathrooms to patrons and staff during construction. Trailer style restrooms are requested.

END OF ADDENDUM



SECTION 071326 - SELF-ADHERING SHEET WATERPROOFING

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. Rubberized asphalt sheet waterproofing for positive side applications.
 - 2. Composite sheet drainage for positive drainage and membrane protection.
 - 3. Composite sheet waterproofing for blind side applications.

1.3 SUBMITTALS

- A. Product Data: Include manufacturer's written instructions for evaluating, preparing, and treating substrate, technical data, and tested physical and performance properties of waterproofing.
- B. Warranties: Special warranties specified in this Section.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A firm that is approved or licensed by waterproofing manufacturer for installation of waterproofing required for this Project.
- B. Source Limitations: Obtain waterproofing materials, protection course, through one source from a single manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver liquid materials to Project site in original packages with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by waterproofing manufacturer.
- C. Remove and replace liquid materials that cannot be applied within their stated shelf life.
- D. Store rolls according to manufacturer's written instructions.
- E. Protect stored materials from direct sunlight.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Apply waterproofing within the range of ambient and substrate temperatures recommended by waterproofing manufacturer. Do not apply waterproofing to a damp or wet substrate.
 - 1. Do not apply waterproofing in snow, rain, fog, or mist.

- B. Maintain adequate ventilation during preparation and application of waterproofing materials.

1.7 WARRANTY

- A. Special Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to replace waterproofing material that does not comply with requirements or that fails to remain watertight within specified warranty period.
 - 1. Failure includes, but is not limited to, failure of waterproofing due to failure of substrate prepared and treated according to requirements or formation of new joints and cracks in substrate exceeding 1/16 inch in width.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MODIFIED BITUMINOUS SHEET WATERPROOFING

- A. Modified Bituminous Sheet: 60-mil- thick, self-adhering sheet consisting of 56 mils of rubberized asphalt laminated to a 4-mil- thick, polyethylene film with release liner on adhesive side.
 - 1. Products: Subject to compliance with requirements, provide the following basis of design product: WR Grace & Co. "Bituthene 4000 system (with all ancillary system products) or equivalent by one of the following:
 - a. American Hydrotech, Inc.; VM 75.
 - b. Carlisle Coatings & Waterproofing Inc.; CCW MiraDRI 860/861.
 - c. Meadows, W. R., Inc.; SealTight Mel-Rol.
 - d. Pecora Corporation; Duramem 700-SM.
 - e. Polyguard Products; Polyguard 650.
 - 2. Physical Properties:
 - a. Tensile Strength: 250 psi minimum; ASTM D 412, Die C, modified.
 - b. Ultimate Elongation: 325 percent minimum; ASTM D 412, Die C, modified.
 - c. Low-Temperature Flexibility: Pass at minus 20 deg F; ASTM D 1970.
 - d. Crack Cycling: Unaffected after 100 cycles of 1/8-inch movement; ASTM C 836.
 - e. Puncture Resistance: 50 lbf minimum; ASTM E 154.
 - f. Hydrostatic-Head Resistance: 231 feet minimum; ASTM D 5385.
 - g. Water Absorption: 0.1 percent weight-gain maximum after 48-hour immersion at 70 deg F; ASTM D 570.
 - h. Vapor Permeance: 0.05 perms; ASTM E 96, Water Method.

2.2 AUXILIARY MATERIALS

- A. General: Furnish auxiliary materials recommended by waterproofing manufacturer for intended use and compatible with sheet waterproofing.
 - 1. Furnish liquid-type auxiliary materials that comply with VOC limits of authorities having jurisdiction.
- B. Primer: Liquid waterborne primer recommended for substrate by manufacturer of sheet waterproofing material.

- C. Surface Conditioner: Liquid, waterborne surface conditioner recommended for substrate by manufacturer of sheet waterproofing material.
- D. Liquid Membrane: Elastomeric, two-component liquid, cold fluid applied, trowel grade or low viscosity.
- E. Substrate Patching Membrane: Low-viscosity, two-component, asphalt-modified coating.
- F. Sheet Strips: Self-adhering, rubberized-asphalt sheet strips of same material and thickness as sheet waterproofing.
- G. Mastic, Adhesives, and Tape: Liquid mastic and adhesives, and adhesive tapes recommended by waterproofing manufacturer.
- H. Protection Course: Extruded-polystyrene board insulation, unfaced, ASTM C 578, Type X, 1 inch thick.
 - 1. Normal Density: 1.0 lb/ft³
 - 2. Thermal Conductivity, K factor: 0.24 at 40 degrees Fahrenheit, 0.26 at 24 degrees Fahrenheit.
 - 3. Thermal Resistance, R-Value; 4 per 1 (one) inch of thickness.

2.3 COMPOSITE SHEET WATERPROOFING

- A. Available Products: subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:
 - 1. Preprufe, W.R. Grace & Co.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance.
 - 1. Verify that concrete has cured and aged for minimum time period recommended by waterproofing manufacturer.
 - 2. Verify that concrete is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
 - 3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Clean, prepare, and treat substrates according to manufacturer's written instructions. Provide clean, dust-free, and dry substrates for waterproofing application.
- B. Mask off adjoining surfaces not receiving waterproofing to prevent spillage and overspray affecting other construction.
- C. Remove grease, oil, bitumen, form-release agents, paints, curing compounds, and other penetrating contaminants or film-forming coatings from concrete.
- D. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids.
- E. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks according to ASTM D 4258.

1. Install sheet strips and center over treated construction and contraction joints and cracks exceeding a width of 1/16 inch.
- F. Bridge and cover expansion joints discontinuous deck-to-wall and deck-to-deck joints with overlapping sheet strips.
- G. Corners: Prepare, prime, and treat inside and outside corners according to ASTM D 6135.
 1. Install membrane strips centered over vertical inside corners. Install 3/4-inch fillets of liquid membrane on horizontal inside corners and as follows:
 - a. At footing-to-wall intersections, extend liquid membrane each direction from corner or install membrane strip centered over corner.
 - b. At plaza deck-to-wall intersections, extend liquid membrane or sheet strips onto deck waterproofing and to finished height of sheet flashing.
- H. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through waterproofing and at drains and protrusions according to ASTM D 6135.

3.3 MODIFIED BITUMINOUS SHEET WATERPROOFING APPLICATION

- A. Install modified bituminous sheets according to waterproofing manufacturer's written instructions and according to recommendations in ASTM D 6135.
- B. Apply primer to substrates at required rate and allow to dry. Limit priming to areas that will be covered by sheet waterproofing in same day. Reprime areas exposed for more than 24 hours.
- C. Apply and firmly adhere sheets over area to receive waterproofing. Accurately align sheets and maintain uniform 2-1/2-inch- minimum lap widths and end laps. Overlap and seal seams and stagger end laps to ensure watertight installation.
 1. When ambient and substrate temperatures range between 25 and 40 deg F, install self-adhering, modified bituminous sheets produced for low-temperature application. Do not use low-temperature sheets if ambient or substrate temperature is higher than 60 deg F.
- D. Apply continuous sheets over sheet strips bridging substrate cracks, construction, and contraction joints.
- E. Seal exposed edges of sheets at terminations not concealed by metal counterflashings or ending in reglets with mastic.
- F. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheet waterproofing extending 6 inches beyond repaired areas in all directions.
- G. Install protection course with butted joints over waterproofing membrane immediately.
- H. Correct deficiencies in or remove sheet waterproofing that does not comply with requirements; repair substrates, reapply waterproofing, and repair sheet flashings.

3.4 PROTECTION AND CLEANING

- A. Protect waterproofing from damage and wear during remainder of construction period.
- B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 071326

SECTION 081221 - FIBERGLASS DOORS AND FRAMES

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. Fiberglass Reinforced Plastic (FRP) doors and frames.

- B. Related Sections:

- 1. Division 06 Section "Sheathing" for rubberized asphalt flashing at openings.
 - 2. Division 08 Section "Door Hardware (Scheduled by Describing Products)" for door hardware for fiberglass doors.
 - 3. Division 08 Section "Hollow Metal Doors and Frames" for hollow metal products.
 - 4. Division 09 Sections "Exterior Painting" and "Interior Painting" for field painting hollow metal doors and frames.

1.3 SUBMITTALS

- A. Manufacturer's data sheets on each product to be used, including:

- 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

- B. Shop Drawings:

- 1. Plans: Indicate location of each door opening assembly in project.
 - 2. Elevations: Dimensioned elevation of each type door opening assembly in project; indicate sizes and locations of door hardware, and lites and louvers, if specified.
 - 3. Details: Installation details of each type installation condition in project; indicate installation details of glazing, if specified.
 - 4. Schedule: Indicate each door opening assembly in project; cross-reference to plans, elevations, and details.

- C. Selection Samples: For each finish product specified, two (2) complete sets of color chips representing manufacturer's full range of available colors and patterns.

- D. Verification Samples: For each finish product specified, two (2) samples, minimum size 6 inches square, representing actual product, color, and patterns.

- E. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.

- F. Closeout: Submit warranty documents specified herein.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing fiberglass doors and frames with a minimum documented experience of ten (10) years.
- B. Installer Qualifications: Company specializing in installation of fiberglass doors and frames with minimum three (3) years documented experience.

1.5 PERFORMANCE REQUIREMENTS

- A. Door opening assemblies:
 - 1. Maximum flame spread 25 in accordance with ASTM E 84, self-extinguishing in accordance with ASTM D 635.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's unopened, undamaged packaging, with manufacturer's labels intact.
- B. Inspect and report damage to doors at time of delivery.
- C. Store products in manufacturer's unopened packaging until ready for installation.
- D. Store door assemblies in on end, to prevent damage to face corners and edges.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.8 COORDINATION

- A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.9 WARRANTY

- A. Manufacturer's Warranty: Manufacturer's 15-year warranty against failure due to corrosion from specified environment.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design Manufacturer: FIB-R-Dor, Div. of Advance Fiberglass, Inc. 7516 Counts Massie Rd., N. Little Rock, AR 72113; Toll Free Tel: 800-FIB-RDOR; Tel: 501-758-9494; Fax: 501-758-9496; www.fibrdor.com

2.2 MATERIALS

- A. Fiberglass Mat: Glass fiber chopped strand, minimum 1.5 ounces per square foot.
- B. Resins: Manufacturer's formulation for fabricating units to meet specified requirements.
- C. Anchors: Manufacturer's standard stainless steel expansion anchors for existing openings, and stainless steel masonry tee anchors for new construction.
- D. Fasteners: Stainless steel.

2.3 COMPONENTS

- A. Non-rated Fiberglass Reinforced Plastic (FRP) Doors:
1. Thickness: 1-3/4 inches.
 2. Thermal Insulating Value: 'R' factor 11.
 3. Construction:
 - a. Core: End-grain balsa wood, resin-impregnated.
 - b. Door Plates: Molded in one continuous piece, resin reinforced with hand-laid glass fiber mat, nominal 1/8 inch thick, minimum 15 mil gel-coated surface.
 - c. Door Edges: Minimum 3 layers resin-reinforced glass fiber mat, nominal 3/8 inch thick, machine tooled.
 4. Sizes: Indicated on drawings.
 5. Finish: Smooth gloss surface, minimum value of 88 in accordance with ASTM D 523.
 - a. Color: TBD by owner/architect from manufacturer's standard range of colors.
- B. Non-rated Fiberglass Frames:
1. Construction: One-piece pultruded fiberglass reinforced plastic, minimum 1/4 inch wall thickness, jamb-to-head joints mitered and reinforced with FRP clips and stainless steel fasteners; conforming to SDI requirements for performance equivalent to 16 gage steel frames.
 2. Frame profile: 5-3/4 inches deep, 2 inches wide face; double rabbeted with 5/8 inch high stop.
 3. Sizes: Indicated on drawings.
 4. Finish: Satin Co-Extruded finish, with true and consistent color throughout frame thickness.
 - a. Color: TBD by owner/architect from manufacturer's standard range of colors.
- C. Frame Anchors: Types recommended by manufacturer for project conditions.
- D. Louvers in Non-rated Doors:
1. Construction: Molded solid vanes; pultruded fiberglass reinforced plastic construction.

2. Sizes: Indicated on drawings.
3. Finish: Satin pigmented finish, with true and consistent color throughout frame thickness.
 - a. Color: TBD by owner/architect from manufacturer's standard range of colors.
 - b. Door Hardware: Specified Section 08710.

2.4 FABRICATION

A. Fiberglass Reinforced Plastic (FRP) Doors:

1. Minimum glass fiber to resin ratio: 30 percent.
2. Mortise for lockset, and recess for strike plate in lock stile.
3. Embed steel reinforcement for hinges in fiberglass matrix; provide for hinge leaf recesses in hinge stile.

B. Fiberglass Frames:

1. Mortise for lock strike, and recess for strike plate in lock jamb.
2. Reinforce for hinges and other indicated hardware.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify openings are ready to receive work and opening dimensions and clearances are as indicated on approved shop drawings. Do not begin installation until openings have been properly prepared.
- B. If opening preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Acclimate doors and frames to site conditions for a minimum of 24 hours before installation.
- B. Do not remove labels from fire-rated doors and frames.

3.3 INSTALLATION

- A. Install door opening assemblies in accordance with approved shop drawings, SDI 100, and manufacturer's printed installation instructions, using installation methods and materials specified in installation instructions.
- B. Use anchorage devices to securely fasten sliding door assembly to wall construction without distortion or imposed stresses.
- C. Installation of door hardware is specified in Section 08710.
- D. Install door hardware in accordance with manufacturer's printed instructions, using through-bolts to secure surface applied hardware.

- E. Site Tolerances: Maintain plumb and level tolerances specified in manufacturer's printed installation instructions.

3.4 ADJUSTING

- A. Adjust doors in accordance with door manufacturer's maintenance instructions to swing open and shut without binding, and to remain in place at any angle without being moved by gravitational influence.
- B. Adjust door hardware to operate correctly in accordance with hardware manufacturer's maintenance instructions.

3.5 CLEANING

- A. Clean surfaces of door opening assemblies and sight-exposed door hardware in accordance with manufacturer's maintenance instructions.
- B. Remove labels and visible markings.

3.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 0811221

SECTION 084113 - ALUMINUM ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following types of aluminum entrance and storefront work:
 - 2. Aluminum entrances.
- B. Related Sections: The following sections contain requirements that relate to this Section:
 - 0. Division 4 Section "Unit Masonry" for adjacent surfaces.
 - 2. Division 8 Section "Glazing" for glazing inserts.

1.3 SYSTEM PERFORMANCE REQUIREMENTS

- A. General: Provide aluminum storefront assemblies that comply with performance characteristics specified, as demonstrated by testing the manufacturer's corresponding stock assemblies according to test methods indicated.
- B. Thermal Movement: Design the aluminum storefront framing systems to provide for expansion and contraction of the component materials.
 - 0. The system shall be capable of withstanding a metal surface temperature range of 180 deg F (100 deg C) without buckling, failure of joint seals, undue stress on structural elements, damaging loads on fasteners, reduction of performance, stress on glass, or other detrimental effects.
- C. Design Requirements: Provide aluminum storefront systems that comply with structural performance, air infiltration, and water penetration requirements indicated.
 - 0. Wind Loads: Provide aluminum storefront assemblies capable of withstanding the following wind pressures inward and outward acting normal to the plane of the wall. Design for 30 psf.
- D. Structural Performance: Conduct tests for structural performance in accordance with ASTM E 330. At the conclusion of the tests there shall be no glass breakage or permanent damage to fasteners, anchors, hardware or actuating mechanism. Framing members shall have no permanent deformation in excess of 0.2 percent of their clear span.
 - 0. Deflection Normal to the Plane of the Wall: Test pressure required to measure deflection of framing members normal to the plane of the wall shall be equivalent to the wind load specified above. Deflection shall not exceed 1/175 of the clear span, when subjected to uniform load deflection test.
 - 1. Deflection Parallel to the Plane of the Wall: Test pressures required to measure deflection parallel to the plane of the wall shall be equal to 1.5 times the wind pressures specified above.

Deflection of any member carrying its full dead load shall not exceed an amount that will reduce glass bite below 75 percent of the design dimension and shall not reduce the edge clearance between the member and the fixed panel, glass or other fixed member above to less than 1/8 inch. The clearance between the member and an operable door or window shall be at least 1/16 inch.

- E. Air Infiltration: Provide aluminum entrance and storefront framing system with an air infiltration rate of not more than 0.06 CFM per sq. ft. of fixed area (excluding operable door edges) when tested in accordance with ASTM E 283 at an inward test pressure differential of 1.57 psf.
- F. Water Penetration: Provide framing systems with no uncontrolled water penetration (excluding operable door edges) as defined in the test method when tested in accordance with ASTM E 331 at an inward test pressure differential of 6.24 lbf per sq. ft.
- G. Condensation Resistance: Where framing systems are "thermal-break" construction, provide units tested for thermal performance in accordance with AAMA 1503 showing condensation resistance factor (CRF) of not less than 45.
- H. Thermal Transmittance: Provide framing systems that have an overall U-value of not more than 0.65 BTU/(hr. x sq. ft. x deg. F) at 15 mph exterior wind velocity when tested in accordance with AAMA 1503.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of the Contract and Division 1 Specification Sections.
 - 1. Product data for each aluminum storefront system required, including:
 - a. Manufacturer's standard details and fabrication methods.
 - b. Data on finishing, hardware and accessories.
 - c. Recommendations for maintenance and cleaning of exterior surfaces.
 - d. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
 - 2. Shop drawings for each aluminum storefront system required, including:
 - a. Layout and installation details, including relationship to adjacent work.
 - b. Elevations at 1/4-inch scale.
 - c. Detail sections of typical composite members.
 - d. Anchors and reinforcement.
 - e. Hardware mounting heights.
 - f. Provisions for expansion and contraction.
 - g. Glazing details.
 - 3. Samples for Verification Purposes: The Architect reserves the right to require additional samples, that show fabrication techniques and workmanship, and design of hardware and accessories.

1.5 QUALITY ASSURANCE

- A. **Installer Qualifications:** Engage an experienced Installer who has completed installations of aluminum storefront similar in design and extent to those required for the project and whose work has resulted in construction with a record of successful in-service performance.
- B. **Manufacturer's Qualifications:** Provide aluminum storefront systems produced by a firm experienced in manufacturing systems that are similar to those indicated for this project and that have a record of successful in-service performance.
- C. **Single Source Responsibility:** Obtain aluminum storefront systems from one source and from a single manufacturer.
- D. **Design Criteria:** The drawings indicate the size, profile, and dimensional requirements of aluminum entrance and storefront work required and are based on the specific types and models indicated. Aluminum storefront by other manufacturers may be considered, provided deviations in dimensions and profiles are minor and do not change the design concept as judged by the Architect. The burden of proof of equality is on the proposer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver aluminum entrance and storefront components in the manufacturer's original protective packaging.
- B. Store aluminum components in a clean dry location away from uncured masonry or concrete. Cover components with waterproof paper, tarpaulin or polyethylene sheeting in a manner to permit circulation of air.
 - 1. Stack framing components in a manner that will prevent bending and avoid significant or permanent damage.

1.7 PROJECT CONDITIONS

- A. **Field Measurements:** Check openings by accurate field measurement before fabrication. Show recorded measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of the work.
 - 1. Where necessary, proceed with fabrication without field measurements, and coordinate fabrication tolerances to ensure proper fit.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. **Available Manufacturers:** Subject to compliance with requirements, manufacturers offering storefront systems that may be incorporated in the work include, but are not limited to, the following:
 - 1. Amarlite Architectural Products.
 - 2. EFCO Corporation.
 - 3. Kawneer Company, Inc.
 - 4. United States Aluminum Corp.
 - 5. Vistawall Architectural Products.
 - 6. YKK AP America.

B. Products utilized as Basis of Design are Kawneer.

2.2 MATERIALS

- A. Aluminum Members: Alloy and temper recommended by the manufacturer for strength, corrosion resistance, and application of required finish; comply with ASTM B 221 for aluminum extrusions, ASTM B 209 for aluminum sheet or plate, and ASTM B 211 for aluminum bars, rods and wire.
- B. Carbon steel reinforcement of aluminum framing members shall comply with ASTM A 36 for structural shapes, plates and bars, ASTM A 611 for cold rolled sheet and strip, or ASTM A 570 for hot rolled sheet and strip.
- C. Glass and Glazing Materials: Sealed insulating glass units as indicated.
1. See Section 088000 "Glazing" for glass requirements:
- D. Insulated Panel Insets: Laminated metal-faced panels with no deviations on plane exceeding 0.8 percent of panel dimension in width or length.
1. Overall Panel Thickness: 1 inch (25.4 mm).
 2. Interior and Exterior System
 - a. Finish: Match framing system.
 - b. Texture: Embossed.
 - c. Backing Sheets: 1/8" tempered hardboard.
 3. Thermal Insulation Core: Rigid, Closed-cell, Polyisocyanurate board.
- E. Fasteners: Provide fasteners of aluminum, nonmagnetic stainless steel, or other material warranted by the manufacturer to be noncorrosive and compatible with aluminum components, hardware, anchors and other components.
1. Reinforcement: Where fasteners screw-anchor into aluminum members less than 0.125 inches thick, reinforce the interior with aluminum or nonmagnetic stainless steel to receive screw threads, or provide standard noncorrosive pressed-in splined grommet nuts.
 2. Exposed Fasteners: Do not use exposed fasteners except for application of hardware. For application of hardware, use Phillips flat-head machine screws that match the finish of member or hardware being fastened.
- F. Concealed Flashing: 0.0179-inch (26 gage) minimum dead-soft stainless steel, or 0.026-inch-thick minimum extruded aluminum of alloy and type selected by manufacturer for compatibility with other components.
- G. Brackets and Reinforcements: Provide high-strength aluminum brackets and reinforcements; where use of aluminum is not feasible provide nonmagnetic stainless steel or hot-dip galvanized steel complying with ASTM A 123.
- H. Concrete and Masonry Inserts: Provide cast iron, malleable iron, or hot-dip galvanized steel inserts complying with ASTM A 123.

- I. Compression Weatherstripping: Manufacturer's standard replaceable compressible weatherstripping gaskets of molded neoprene complying with ASTM D 2000 or molded PVC complying with ASTM D 2287.
- J. Sliding Weatherstripping: Manufacturer's standard replaceable weatherstripping of wool, polypropylene, or nylon woven pile, with nylon fabric or aluminum strip backing, complying with AAMA 701.2.

2.3 HARDWARE

- A. General: Refer to Division 8 Section "Door Hardware" for hardware supplied under that section, but installed by the aluminum entrance manufacturer.
- B. Perimeter and meeting stile gasket by door/frame manufacturer.

2.4 COMPONENTS

- A. Exterior Storefront Framing System: Provide thermally broken storefront framing systems fabricated from extruded aluminum members of size and profile indicated. Include subframes and other reinforcing members of the type indicated. Shop-fabricate and preassemble frame components where possible. Provide storefront frame sections without exposed seams.
 - 1. Equivalent to Kawneer Trifab VG 451 T framing system with multi-plane capability.
- B. Entrances: Equivalent to Kawneer 500 Tuffline series.
 - 1. Design: Provide 2 inch thick doors of design indicated, accepting 1" insulated glazing or 1" insulated aluminum panels.
 - a. Wide Stile:
 - 5" nominal width vertical stiles.
 - 10" nominal width bottom rail.
 - 8" nominal width middle rail.
 - 5" nominal width top rail.

2.5 FABRICATION

- A. General: Fabricate aluminum storefront components to designs, sizes and thicknesses indicated and to comply with indicated standards. Sizes and profile requirements are indicated on the drawings. Variable dimensions are indicated, with maximum and minimum dimensions required, to achieve design requirements and coordination with other work.
 - 1. Thermal-Break Construction: Fabricate storefront framing system with an integrally concealed, low-conductance thermal barrier, located between exterior materials and exposed interior members to eliminate direct metal-to-metal contact. Use manufacturer's standard construction that has been in use for similar projects for period of not less than three (3) years.
- B. Prefabrication: Complete fabrication, assembly, finishing, hardware application, and other work to the greatest extent possible before shipment to the Project site. Disassemble components only as necessary for shipment and installation.

1. Perform fabrication operations, including cutting, fitting, forming, drilling and grinding of metal work to prevent damage to exposed finish surfaces. Complete these operations for hardware prior to application of finishes.
 2. Do not drill and tap for surface-mounted hardware items until time of installation at project site.
 3. Preglaze door and frame units to greatest extent possible.
 4. Fabricated components per assembly using head-and-sill-receptor system.
- C. Welding: Comply with AWS recommendations. Grind exposed welds smooth to remove weld spatter and welding oxides. Restore mechanical finish.
1. Welding behind finished surfaces shall be performed in such a manner as to minimize distortion and discoloration on the finished surface.
- D. Reinforcing: Install reinforcing as required for hardware and as necessary for performance requirements, sag resistance and rigidity.
- E. Dissimilar Metals: Separate dissimilar metals with bituminous paint, or a suitable sealant, or a nonabsorptive plastic or elastomeric tape, or a gasket between the surfaces. Do not use coatings containing lead.
- F. Continuity: Maintain accurate relation of planes and angles with hairline fit of contacting members.
1. Uniformity of Metal Finish: Abutting extruded aluminum members shall not have an integral color or texture variation greater than half the range indicated in the sample pair submittal.
- G. Fasteners: Conceal fasteners wherever possible.
- H. Weatherstripping: For exterior doors, provide compression weatherstripping against fixed stops. At other edges, provide sliding weatherstripping retained in adjustable strip mortised into door edge.
1. Provide EPDM or vinyl-blade gasket weatherstripping in bottom door rail, adjustable for contact with threshold.
 2. At interior doors and other locations without weatherstripping, provide neoprene silencers on stops to prevent metal-to-metal contact.

2.6 FINISHES

- A. General: Comply with NAAMM "Metal Finishes Manual" for recommendations relative to application and designations of finishes.
- B. Finish designations prefixed by "AA" conform to the system established by the Aluminum Association for designating aluminum finishes.
- C. High-Performance Organic Finish: Three-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 50 percent PVDF resin by weight in both color coat and clear topcoat. Prepare,

pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's written instructions.

1. Color and Gloss: As selected from manufacturer's full range of standard color and finish options

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and supports, with the Installer present, for compliance with requirements indicated, installation tolerances, and other conditions that affect installation of aluminum entrances and storefronts. Correct unsatisfactory conditions before proceeding with the installation.
 1. Do not proceed with installation until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation.
- B. Set units plumb, level, and true to line, without warp or rack of framing members. Install components in proper alignment and relation to established lines and grades indicated. Provide proper support and anchor securely in place.
- C. Construction Tolerances: Install aluminum storefront to comply with the following tolerances:
 1. Variation from Plane: Do not exceed 1/8 inch in 12 feet of length or 1/4 inch in any total length.
 2. Offset from Alignment: The maximum offset from true alignment between two (2) identical members abutting end to end in line shall not exceed 1/16 inch.
 3. Diagonal Measurements: The maximum difference in diagonal measurements shall not exceed 1/8 inch.
 4. Offset at Corners: The maximum out-of-plane offset of framing at corners shall not exceed 1/32 inch.
- D. Separate aluminum and other corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
 1. Zinc or cadmium plate steel anchors and other unexposed fasteners after fabrication.
 2. Paint dissimilar metals where drainage from them passes over aluminum.
 3. Paint aluminum surfaces in contact with mortar, concrete or other masonry with alkali resistant coating.
 4. Paint wood and similar absorptive material in contact with aluminum and exposed to the elements or otherwise subject to wetting, with two (2) coats of aluminum house paint. Seal joints between the materials with sealant.
- E. Drill and tap frames and doors and apply surface-mounted hardware items. Comply with hardware manufacturer's instructions and template requirements. Use concealed fasteners wherever possible.
- F. Set sill members and other members in bed of sealant as indicated, or with joint fillers or gaskets as indicated to provide weathertight construction. Comply with requirements of Division 7 for sealants, fillers, and gaskets.

- G. Refer to “Glazing” Section of Division 8 for installation of glass and other panels indicated to be glazed into doors and framing, and not preglazed by manufacturer.

3.3 ADJUSTING

- A. Adjust operating hardware to function properly, for smooth operation without binding, and for weather tight closure.

3.4 CLEANING

- A. Clean the completed system, inside and out, promptly after installation, exercising care to avoid damage to coatings.
- B. Clean glass surfaces after installation. Remove excess glazing and sealant compounds, dirt and other substances from aluminum surfaces.

3.5 PROTECTION

- A. Institute protective measures required throughout the remainder of the construction period to ensure that aluminum entrances and storefronts will be without damage or deterioration, other than normal weathering, at time of acceptance.

END OF SECTION 084113