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HCCSC – HNHS Window Replacement

Project # 2025.0012

November 24, 2025

ADDENDUM NO. 2

This addendum is issued as a supplement to the plans and specifications and shall be considered an integral part of the same. Acknowledgement of receipt of this addendum is required on the Bid Form.

Item: A-2.1
Location: Additional Scope of Work
Description: Contractor shall provide and install 3M Safety Film as specified to Door #1 vestibule sliding doors, sidelights, and transom. See [ADDENDUM #2] EXHIBIT #1 - VESTIBULE.

Item: A-2.2
Location: Additional Scope of Work
Description: Contractor shall provide and install 3M Safety File as specified to Door #309 door glass and sidelight. See [ADDENDUM #2] EXHIBIT #2 – DOOR #309 and SIDELIGHT

Item: A-2.3
Location: Specification Section 084313 – ALUMINUM STOREFRONT FRAMING
Description: DISCARD the Specification Section 084313 – Aluminum Storefront Framing from the Specification Book, issued: 11/14/2025 and replace with the attached, revised [ADDENDUM #2] EXHIBIT #3 - [Specification Section] 084313 – ALUMINUM STOREFRONT FRAMING.

Item: A-2.4
Location: Specification Section 084413 – GLAZED CURTAINWALL
Description: DISCARD the Specification Section 084413 – Glazes Curtainwall from the Specification Book, issued: 11/14/2025 and replace with the attached, revised [ADDENDUM #2] EXHIBIT #4 - [Specification Section] 084413 – GLAZED CURTAINWALL.

Item: A-2.5
Location: Sheet A5.01, Detail 5 – CURTAINWALL @ PARAPET 1
Description: Replace Sheet A5.1, Detail 5 with the attached [ADDENDUM #2] EXHIBIT #5 – CURTAINWALL @ PARAPET DETAIL @ UNIT A, B, C, D, E, F.

Item: A-2.6
Location: General Information
Description: CLARIFICATION – [ADDENDUM #2] EXHIBIT #5 detail shall not extend over and above the DOOR #2 and DOOR #3 entrance canopy.

Item: A-2.7
Location: Sheets A4.01 and A5.01
Description: CLARIFICATION – Sheet A4.01 is intended as general conditions and visual information. Sheet A5.01 and [ADDENDUM #2] EXHIBIT #5 CURTAINWALL @ PARAPET DETAIL @ UNIT A, B, C, D, E, F is intended for specific applications, especially at the sill profile.

Item: A-2.8
Location: General Information
Description: CLARIFICATION – The new curtainwall and storefront system shall include ALL appurtenances including by not limited to receivers, flashing / counter flashing, trim, fasteners, etc. for a completion installation in every respect.

Item: A-2.9
Location: General Information
Description: CLARIFICATION – The contractor shall secure the building at the end of every day. Plywood or OSB in window and door openings is preferred.

Item: A-2.10
Location: General Information
Description: CLARIFICATION – It is expected that a Building Permit will be required for the HNHS – Window Replacement project.

Item: A-2.11
Location: General Information
Description: The approved roofing contractor for the HNHS Window Replacement project is Morris & Sons Roofing Inc. 208 E. Quad Street, Bourbon, IN 46504, 574-342-3095, office@ morrisandsonsroofing.com.

Item: A-2.12
Location: General Information
Description: CLARIFICATION – Any and ALL pricing for materials noted in the Specifications and Drawings are to be submitted as Prime Bidder or through a [bidding] General Contractor. NO material vendors shall submit pricing directly to the school.

Item: A-2.13
Location: General Information
Description: CLARIFICATION - Bid Submission of the contractors that have not / do not visit the site will be rejected as per the specifications requirements.

EXHIBITS

[ADDENDUM #2] EXHIBIT #1 – DOOR #1 VESTIBULE SLIDING DOORS, SIDELIGHTS, AND TRANSOMS
[ADDENDUM #2] EXHIBIT #2 – DOOR #309 and SIDELIGHT
[ADDENDUM #2] EXHIBIT #3 – 084313 – ALUMINUM STOREFRONT FRAMING
[ADDENDUM #2] EXHIBIT #4 – 084413 – GLAZED CURTAINWALL
[ADDENDUM #2] EXHIBIT #5 – CURTAINWALL @ PARAPET DETAIL @ UNIT A, B, C, D, E, F

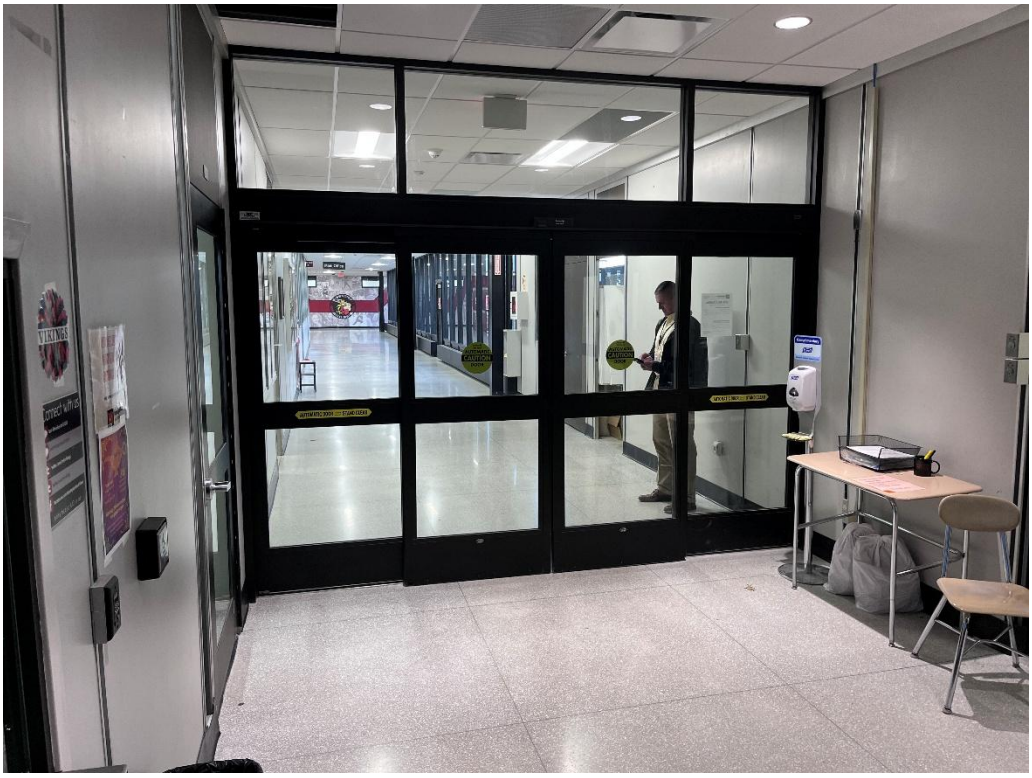

EXHIBIT 1

DOOR #1 VESTIBULE SLIDING DOORS, SIDELIGHTS, AND TRANSOM

EXHIBIT 2

DOOR #309 – Door and Sidelight

SECTION 084113: ALUMINUM STOREFRONT FRAMING

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 covers Kawneer Architectural Aluminum Storefront Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of storefront units.

B. Types of Kawneer Aluminum Storefront Systems include:
   1. Trifab® Versaglaze® 601T Framing System
      a. 2" x 6" (50.8 mm x 152.4 mm) nominal dimension
      b. 4'' x 6'' (101.06 mm x 152.4 mm) nominal dimension
      c. Thermal
      d. Front Plane
      e. Screw Spline, Shear Block and Stick Fabrication Fabrication

C. Related Sections:
   1. 079200: Joint Sealants
   2. 084413: Glazed Aluminum Curtain Walls
   3. 088000: Glazing

1.3 DEFINITIONS

A. For fenestration industry standard terminology and definitions, refer to the Fenestration & Glazing Industry Alliance (FGIA) Glossary (AAMA AG-13).

1.4 PERFORMANCE REQUIREMENTS

A. General Performance:
   1. Product to comply with the specified performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction, as determined by testing of aluminum storefront systems representing those indicated for this project.
   2. Aluminum storefront systems shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
   3. Failure includes any of these events:
      a. Thermal stresses transferring to building structure
      b. Glass breakage
      c. Loosening or weakening of fasteners, attachments, and other components
      d. Failure of operating units

B. Delegated Design:
   1. Design aluminum storefront systems, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

C. Wind Loads:
   1. The storefront system shall include anchorage that is capable of withstanding the following wind load design pressures:
      a. Relative to the Local Area of Huntington, Indiana, USA.

D. Air Leakage:
   1. The test specimen shall be tested in accordance with ASTM E 283.
   2. With interior seal, air leakage rate shall not exceed 0.06 cfm/ft^2 (0.3 l/s · m^2) at a static air pressure differential of 6.2 psf (300 Pa).

E. Water Resistance:
   1. The test specimen shall be tested in accordance with ASTM E 331.
   2. There shall be no leakage at a minimum static air pressure differential of 10 psf (479 Pa) as defined in AAMA 501.
   3. CSA A440 B5 Rating

F. Uniform Load Structural:
   1. A static air design load of 30 psf (1436 Pa) shall be applied in the positive and negative direction in accordance with ASTM E 330.
   2. There shall be no deflection in excess of L/175 of the span of any framing member.
   3. At a structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.
   4. CSA A440 C2 Rating

G. Thermal Transmittance (U-factor):
   1. Thermal transmittance test results are based upon 1" (25.4 mm) clear high-performance insulating glass [1/4" (e=0.035, #2), 1/2" warm edge spacer and argon fill gas, 1/4"].

H. Condensation Resistance Factor (CRF) or Condensation Index (CI):
   1. If using CRF: When tested to AAMA Specification 1503, the CRF shall not be less than listed here:
      a. Trifab® Versaglaze® 601T Framing System, Front Plane 71_{frame} and 68_{glass} (low-e)
   2. If using CI: When tested to CSA A-440, the CI shall not be less than listed here:
      a. Trifab® Versaglaze® 601T Framing System, Front Plane 63_{frame} and 61_{glass} (low-e)

I. Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC):
   1. Sound transmission loss test results in accordance with AAMA 1801 are based upon 1" (25.4 mm) clear double laminated insulating glass with PVB interlayer (1/8", 0.030", 1/8", 1/2" AS, 1/8", 0.030", 1/8").
   2. Ratings shall not be less than listed here:
      a. Trifab® VersaGlaze® 601/601T/601UTFraming System, Front Plane non-laminated glass STC 31 and OITC 25

J. Environmental Product Declaration (EPD): Shall have a Type III Product-Specific EPD created from a Product Category Rule.

1.5 SUBMITTALS

A. Product Data:
   1. For each type of aluminum-framed storefront system indicated, include:
      a. Construction details
      b. Material descriptions
      c. Dimensions of individual components and profiles
      d. Finishes

B. Shop Drawings:
   1. Plans
   2. Elevations
   3. Sections
   4. Details
   5. Attachments to other work

C. Samples for Initial Selection:
   1. Provide samples for units with factory-applied color finishes.

D. Product Test Reports:
   1. Offer any required test results for particular jobs. Accredited test reports wo;; ne available upon request.

1.6 QUALITY ASSURANCE

A. Installer Qualifications:
   1. Installer must have successfully installed the same or similar units required for the project and other projects of similar size and scope.

B. Manufacturer Qualifications:
   1. Manufacturer must be capable of providing aluminum-framed storefront systems that meet or exceed performance the stated performance requirements.

C. Source Limitations:
   1. Obtain aluminum-framed storefront system through one source from a single manufacturer.

D. Product Options:
   1. Drawings indicate size, profiles, and dimensional requirements of aluminum-framed storefront system and are based on the specific system indicated. Refer to Division 01 Product Requirements Section. Do not modify size and dimensional requirements.
   2. 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.

E. Pre-installation Conference:

1. Conduct conference at project site to comply with requirements in Division 01 Project Management and Coordination Section.

1.7 PROJECT CONDITIONS

A. Field Measurements:
   1. Verify actual dimensions of aluminum-framed storefront openings by field measurements before fabrication.
   2. Indicate measurements on shop drawings.

1.8 WARRANTY

A. Warrant frames to be free from defects which include premature degradation of finish and structure.

B. Warranty Period will be ten years from the date of manufacture.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product:
   1. Kawneer Company, Inc.
   2. Trifab® Versaglaze® 601T Framing System
      a. 2" x 6" (50.8 mm x 152.4 mm) nominal dimension
      b. 4'' x 6'' (101.6 mm x 152.4 mm nominal dimensions
         1) As indicated on the Drawings for head, jamb, and sill conditions.
      c. Thermal
      d. Front Plane
      e. Screw Spline, Shear Block and Stick Fabrication Fabrication

B. Substitution Acceptance:
   1. Substitution requests are to be submitted for review by Monday, November 24, 2025 @ 1200PM.

2.2 MATERIALS

A. Aluminum Extrusions:
   1. Alloy and temper recommended by aluminum storefront manufacturer for strength, corrosion resistance, and application of required finish.
   2. Not less than 0.070" (1.8 mm) wall thickness at any location for the main frame
   3. Complying with ASTM B221: 6063-T6 alloy and temper.

B. Fasteners:
   1. Nonmagnetic stainless steel or other materials must be non-corrosive and compatible with aluminum members, trim hardware, anchors, and other components.

C. Anchors, Clips, and Accessories:

1. Anchors, clips, and accessories shall provide sufficient strength to withstand the design pressure indicated.

D. Reinforcing Members:

1. Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating.
2. Reinforcing members must provide sufficient strength to withstand the design pressure indicated.

E. Sealant:

1. For sealants required within fabricated storefront system, provide permanently elastic, non-shrinking, and non-migrating type recommended by sealant manufacturer for joint size and movement.

F. Tolerances:

1. References to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data.

2.3 STOREFRONT FRAMING SYSTEM

A. Thermal Barrier:

1. Trifab® Versaglaze® 601T:
   a. Kawneer IsoLock™ Thermal Break with a nominal 1/4" (6.4 mm) separation consisting of a two-part chemically curing, high-density polyurethane, which is mechanically and adhesively joined to aluminum storefront sections.

B. Brackets and Reinforcements:

1. Manufacturer's standard high-strength aluminum with non-staining, non-ferrous shims for aligning system components.

C. Fasteners and Accessories:

1. Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories must be compatible with adjacent materials.
2. Where exposed, fasteners and accessories shall be stainless steel.

D. Perimeter Anchors:

1. When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.

E. Packing, Shipping, Handling, and Unloading:

1. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

F. Storage and Protection:

1. Store materials so that they are protected from exposure to harmful weather conditions.
2. Handle material and components to avoid damage.

3. Protect material against damage from elements, construction activities, and other hazards before, during, and after installation.

2.4 GLAZING SYSTEMS

A. Glazing to meet requirements in Division 08 Glazing Section.

B. Glazing Gaskets:
   1. Manufacturer's standard compression types
   2. Replaceable, extruded EPDM rubber

C. Spacers and Setting Blocks:
   1. Manufacturer's standard elastomeric type

D. Bond-Breaker Tape:
   1. Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.

E. Glazing Sealants for structural-sealant-glazed systems as recommended by manufacturer for joint type, and as follows:
   1. Weatherseal sealant:
      a. ASTM C 920 for Type S, Grade NS, Class 25, Uses NT, G, A, and O
      b. Single-component neutral-curing formulation that is compatible with the structural sealant and other system components with which it comes in contact
      c. Recommended by structural-sealant, weatherseal-sealant, and aluminum-framed-system manufacturers for this use
      d. Color: Matching structural sealant

2.5 ACCESSORY MATERIALS

A. Joint Sealants:
   1. For installation at perimeter of aluminum-framed systems, see Division 07 Joint Sealants.

B. Bituminous Paint:
   1. Cold-applied asphalt-mastic paint
   2. Complies with SSPC-Paint 12 requirements except containing no asbestos
   3. Formulated for 30-mil (0.762 mm) thickness per coat

2.6 FABRICATION

A. Fabricate framing member components that, when assembled, have the following characteristics:
   1. Profiles that are sharp, straight, and free of defects or deformations
   2. Accurately fitted joints that are flush, hairline, and weatherproof
   3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior
   4. Physical and thermal isolation of glazing from framing members
   5. Accommodations for thermal and mechanical movements of glazing and framing that maintain required glazing edge clearances

6. Provisions for field replacement of glazing
7. Fasteners, anchors, and connection devices that are concealed from view to the greatest extent possible

B. Mechanically Glazed Framing Members:
1. Fabricate for flush glazing without projecting stops.

C. Structural-Sealant-Glazed Framing Members:
1. Include accommodations for using temporary support device to retain glazing in place while structural sealant cures.

D. Storefront Framing:
1. Fabricate components for assembly using manufacturer's standard installation instructions.

E. After fabrication, clearly mark components to identify their locations in project according to shop drawings.

2.7 ALUMINUM FINISHES

A. Finish designations that are prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. Factory Finishing:
1. Kawneer Permanodic® AA-M10C21A44, AAMA 611, Architectural Class I Color Anodic Coating (Color: Black)

PART 3 EXECUTION

3.1 EXAMINATION

A. With installer present, examine openings, substrates, structural support, anchorage, and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work:
1. Verify rough opening dimensions.
2. Verify levelness of sill plate.
3. Verify operational clearances.
4. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components for proper water management.
5. Masonry Surfaces:
   a. Masonry surfaces must be visibly dry and free of excess mortar, sand, and other construction debris.
6. Wood Frame Walls:
   a. Wood frame walls must be dry, clean, sound, well nailed, free of voids, and without offsets at joints.
   b. Ensure that nail heads are driven flush with surfaces in opening and within 3" (76.2 mm) of opening.
7. Metal Surfaces:
   a. Metal surfaces must be dry and clean (free of grease, oil, dirt, rust, corrosion, and welding slag).

b. Ensure that metal surfaces are without sharp edges or offsets at joints.

B. Proceed with installation only after correcting unsatisfactory conditions.

3.2 INSTALLATION

A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum-framed storefront system, accessories, and other components.

B. Install aluminum-framed storefront system so that components:
1. Are level, plumb, square, and true to line
2. Are without distortion and do not impede thermal movement
3. Are anchored securely in place to structural support
4. Are in proper relation to wall flashing and other adjacent construction

C. Set sill members in bed of sealant or with gaskets, as indicated, for weather-tight construction.

D. Install aluminum-framed storefront system and components to drain condensation, water penetrating joints, and moisture migrating within aluminum-framed storefront system to the exterior.

E. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.3 FIELD QUALITY CONTROL

A. Field Tests:
1. Architect shall select storefront units to be tested as soon as a representative portion of the project has been installed, glazed, perimeter caulked and cured.
2. Conduct tests for air infiltration and water penetration with manufacturer’s representative present.
3. Tests that do not meet the specified performance requirements and units that have deficiencies shall be corrected as part of the contract amount.
4. Testing shall be performed per AAMA 503 by a qualified independent testing agency. Refer to Testing Section for payment of testing and testing requirements.
5. Air Infiltration Tests:
   a. Conduct tests in accordance with ASTM E 783.
   b. Allowable air infiltration shall not exceed 1.5 times the amount indicated in the performance requirements or 0.09 cfm/ft^2, whichever is greater.
6. Water Infiltration Tests:
   a. Conduct tests in accordance with ASTM E 1105.
   b. No uncontrolled water leakage is permitted when tested at a static test pressure of two-thirds the specified water penetration pressure but not less than 6.2 psf (300 Pa).

B. Manufacturer's Field Services:
1. Upon owner’s written request, provide periodic site visit by manufacturer’s field service representative.

3.4 ADJUSTING, CLEANING, AND PROTECTION

A. Adjusting: Not applicable.

B. Protection:
   1. Protect installed product’s finish surfaces from damage during construction.

C. Cleaning:
   1. Clean glass immediately after installation.
      a. Comply with glass manufacturer's written recommendations for final cleaning and maintenance.
      b. Remove non-permanent labels and clean surfaces.
   2. Clean aluminum surfaces.
   3. Avoid damaging protective coatings and finishes.
   4. Remove excess sealants, glazing materials, dirt, and other substances.
   5. Repair or replace damaged installed products.
   6. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during the construction period.
   7. Remove construction debris from project site and legally dispose of debris.

END OF SECTION 084113

NOTES AND DISCLAIMERS

Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor. It is the responsibility of the owner, the specifier, the architect, the general contractor, and the installer and the fabricator/transformer, consistent with their roles, to determine the appropriate materials for a project in strict conformity to all applicable national, regional and local building codes and regulations.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

Information contained herein or related hereto is intended only for evaluation by technically skilled persons, with any use thereof to be at their independent discretion and risk. Such information is believed to be reliable, but Kawneer shall have no responsibility or liability for results obtained or damages resulting from such use.

This guide specification is intended to be used by a qualified construction specifier. The guide specification is not intended to be used verbatim as a project specification without appropriate modifications for the specific use intended. The guide specification must be used and coordinated with the procedures of each design firm and the particular requirements of a specific construction project.

Kawneer grants no license under, and shall have no responsibility or liability for infringement of, any patent or other proprietary right. Nothing in this document should be construed as a warranty or guarantee by Kawneer, and the only applicable warranties will be those set forth in Kawneer acknowledgment or in any printed warranty documents issued by Kawneer. The foregoing may be waived or modified only in writing by a Kawneer officer.

SECTION 084413: GLAZED ALUMINUM CURTAIN WALLS

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 covers Kawneer Architectural Aluminum Curtain Wall Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of curtain wall framing.

B. Types of Kawneer Aluminum Curtain Wall Systems include:
   1. 1620UT Curtain Wall System with 1" (25.4 mm) double-glazed insulating glass
      a. Sightline: 2" (50.8 mm)
      b. System depth: 6" (152.4 mm) or 7-1/2" (190.5 mm)
      c. Outside-glazed pressure plate format

C. Related Sections:
   1. 079200: Joint Sealants
   2. 084313: Aluminum-Framed Storefronts
   3. 088000: Glazing

1.3 PERFORMANCE REQUIREMENTS

A. General Performance:
   1. Product to comply with the specified performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction, as determined by testing of glazed aluminum curtain walls representing those indicated for this project.
   2. Glazed aluminum curtain walls shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
   3. Failure includes any of these events:
      a. Thermal stresses transferring to building structure
      b. Glass breakage
      c. Loosening or weakening of fasteners, attachments, and other components
      d. Failure of operating units

B. Delegated Design:
   1. Design glazed aluminum curtain walls, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

C. Wind Loads:
   1. The curtain wall system shall include anchorage that is capable of withstanding the following wind load design pressures:
      a. Relative to the Local Area of Huntington, Indiana, USA.

D. Air Leakage:
   1. The test specimen shall be tested in accordance with ASTM E 283.
   2. Air infiltration rate shall not exceed 0.06 cfm/ft^2 (0.3 l/s · m^2) at a static air pressure differential of 6.2 psf (300 Pa).

E. Water Resistance:
   1. Static:
      a. The test specimen shall be tested in accordance with ASTM E 331.
      b. There shall be no leakage at a minimum static air pressure differential of 20 psf (960 Pa) as defined in AAMA 501.
   2. Cyclic:
      a. The test specimen shall be tested in accordance with ASTM E 547.
      b. There shall be no leakage at an air pressure differential of 20 psf (960 Pa) as defined in AAMA 501.
   3. Severe, Wind Driven Rain:
      a. The test specimen shall be tested in accordance with AAMA 520 and ASTM E 2268.
      b. There shall be no visible water at performance level 10, pressure limits 14 psf (670 Pa) to 42 psf (2010 Pa).

F. Uniform Load:
   1. A static air design load of 42 psf (2010 Pa) shall be applied in the positive and negative direction in accordance with ASTM E 330.
   2. There shall be no deflection in excess of L/175 of the span of any framing member at design load.
   3. At a structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.

G. Thermal Movements:
   1. Allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures:
      a. Temperature Change (Range): 0 °F (-18 °C); 180 °F (82 °C).
      b. Test Interior Ambient Air Temperature: 75 °F (24 °C).
      c. Test Performance: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performancewhen tested according to AAMA 501.5 for a minimum 3 cycles.

H. Thermal Transmittance (U-factor), Physical Test:
   1. Thermal transmittance test results in accordance with AAMA 1503 are based upon argon-filled 1" (25.4 mm) clear low-emissivity coated glass with warm edge spacer.
   2. For 1" (25.4 mm) low-emissivity coated glass: When tested using AAMA 1503, the thermal transmittance (U-factor) shall not be more than 0.35 Btu/(hr·ft^{2}·°F).

I. Condensation Resistance Factor (CRF):
   1. Condensation resistance test results in accordance with AAMA 1503 are based upon argon-filled 1" (25.4 mm) clear low-emissivity coated glass with warm edge spacer.
   2. For 1" (25.4 mm) glass: When tested using AAMA 1503, the CRF_{frame} and CRF_{glass} shall not be less than 77 and 71 respectively.

J. Temperature Index (I):
   1. For 1" (25.4 mm) double glazed low-emissivity coated glass: when tested to CSA-A440-00, the TI_{frame} and TI_{glass} shall not be less than 69 and 65 respectively.

K. Sound Transmission Loss:
   1. When tested to ASTM E90 and ASTM E1425, the Sound Transmission Class (STC) and Outdoor/Indoor Transmission Class (OITC) shall not be less than:
      a. STC 34 or OITC 29 based upon 1" (25.4 mm) laminated glass (1/4", 1/2" AS, 1/4" laminated)

L. Environmental Product Declaration (EPD): Shall have a Type III Product-Specific EPD created from a Product Category Rule.

1.4 SUBMITTALS

A. Product Data:
   1. For each type of product indicated, include:
      a. Construction details
      b. Material descriptions
      c. Dimensions of individual components and profiles
      d. Finishes

B. Shop Drawings:
   1. Plans
   2. Elevations
   3. Sections
   4. Full-size details
   5. Attachments to other work

C. Samples for Initial Selection:
   1. Provide samples for units with factory-applied color finishes.

D. Product Test Reports:
   1. Offer any required test results for particular jobs. Accredited test reports will be available upon request.

1.5 QUALITY ASSURANCE

A. Installer Qualifications:
1. Installer must have successfully installed the same or similar systemsrequired for the project and other projects of similar size and scope.

B. Manufacturer Qualifications:
1. Manufacturer must be capable of fabricating glazed aluminum curtain walls that meet or exceed the stated performance requirements.

C. Source Limitations:
1. Obtain aluminum curtain wall system through one source from a single manufacturer.

D. Product Options:
1. Information on drawings and in specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. 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.
2. 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.

E. Pre-installation Conference:
1. Conduct conference at project site to comply with requirements in Division 01 Project Management and Coordination Section.

1.6 PROJECT CONDITIONS

A. Field Measurements:
1. Verify actual locations of structural supports for glazed aluminum curtain walls by field measurements before fabrication.
2. Indicate measurements on shop drawings.

1.7 WARRANTY

A. Warrant frames to be free from defects which include premature degradation of finish and structure.

B. Warranty Period will be ten years from the date of manufacture.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product:
1. Kawneer Company, Inc.
2. 1620UT Curtain Wall System types:
a. 1620UT Curtain Wall System with 1" (25.4 mm) double-glazed insulating glass

1) Sightline: 2" (50.8 mm) and 4” (101.6 mm)
   a) As indicated on the Drawings for head, jamb, and sill conditions.
2) System depth: 6" (152.4 mm) or 7-1/2" (190.5 mm)
3) Outside-glazed pressure plate format

3. Test to AAMA 501-04 and AAMA 501-06.

B. Substitutions:
1. Substitution requests are to be submitted for review by Monday, November 24, 2025 @ 1200PM.

2.2 MATERIALS

A. Aluminum Extrusions:
1. Alloy and temper recommended by glazed aluminum curtain wall manufacturer for strength, corrosion resistance, and application of required finish
2. Not less than 0.070" (1.8 mm) wall thickness at any location for the main frame
3. Complying with ASTM B221: 6063-T6 alloy and temper

B. Aluminum Sheet Alloy:
1. Shall meet the requirements of ASTM B209.

C. Fasteners:
1. Aluminum, nonmagnetic stainless steel or other materials must be non-corrosive and compatible with aluminum members, trim hardware, anchors, and other components.

D. Anchors, Clips, and Accessories:
1. Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating.
2. Anchors, clips, and accessories shall provide sufficient strength to withstand the design pressure indicated.

E. Pressure Plate:
1. Pressure plate shall be aluminum.
2. Pressure plate shall be fastened to the mullion with stainless steel screws.

F. Reinforcing Members:
1. Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating.
2. Reinforcing members must provide sufficient strength to withstand the design pressure indicated.

G. Sealant:
1. For sealants required within fabricated curtain wall system, provide permanently elastic, non-shrinking, and non-migrating type recommended by sealant manufacturer for joint size and movement.

H. Thermal Barrier:

1. Thermal separator shall be extruded of a silicone compatible elastomer that provides a minimum 1/4" (6.3 mm) separation.

I. Tolerances:

1. References to tolerances for wall thickness and other cross-sectional dimensions of glazed curtain wall members are nominal and in compliance with AA Aluminum Standards and Data.

2.3 CURTAIN WALL FRAMING

A. Framing Members:

1. Manufacturer's standard extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads
2. Glazing System: Four-sided captured
3. Glazing Plane: Front

B. Glass:

1. 1" (25.4 mm) insulating glass option

C. Brackets and Reinforcements:

1. Manufacturer's standard high-strength aluminum with non-staining, non-ferrous shims for aligning system components.

D. Framing Sealants:

1. Shall be suitable for glazed aluminum curtain wall as recommended by sealant manufacturer.

E. Fasteners and Accessories:

1. Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories must be compatible with adjacent materials.
2. Where exposed, fasteners and accessories shall be stainless steel.

F. Perimeter Anchors:

1. When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.

G. Packing, Shipping, Handling, and Unloading:

1. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

H. Storage and Protection:

1. Store materials so that they are protected from exposure to harmful weather conditions.
2. Handle material and components to avoid damage.
3. Protect material against damage from elements, construction activities, and other hazards before, during, and after installation.

2.4 GLAZING

A. Glazing to meet requirements in Division 08 Glazing Section.

B. Available Glazing Options:
1. Outside glazed pressure plate format with 1" (25.4 mm) double glazed and 1-3/4" (44.4 mm) triple glazed insulating glass.

C. Glazing Gaskets:
1. Gaskets to meet requirements of ASTM C864.

D. Spacers and Setting Blocks:
1. Manufacturer's standard elastomeric type

E. Bond-Breaker Tape:
1. Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.

F. Glazing Sealants:
1. As recommended by manufacturer for joint type.

2.5 ACCESSORY MATERIALS

A. Joint Sealants:
1. For installation at perimeter of aluminum curtainwall systems, see Division 07 Joint Sealants.

B. Bituminous Paint:
1. Cold-applied asphalt-mastic paint
2. Complies with SSPC-Paint 12 requirements except containing no asbestos
3. Formulated for 30-mil (0.762 mm) thickness per coat

2.6 ALUMINUM FINISHES

A. Finish designations that are prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. Factory Finishing:
1. Kawneer Permanodic® AA-M10C21A44, AAMA 611, Architectural Class I Color Anodic Coating (Color: Black)

PART 3 EXECUTION

3.1 EXAMINATION

A. With installer present, examine areas for compliance with requirements for installation tolerances and other conditions affecting performance of the work.

B. Proceed with installation only after correcting unsatisfactory conditions.

3.2 INSTALLATION

A. Curtain Wall System Installation:
   1. Install curtain wall systems plumb, level, and true to line, without warp or rack of frames, within manufacturer's prescribed tolerances, and complying with installation instructions.
   2. Provide support and anchor in place.
   3. Dissimilar Materials:
      a. Provide separation of aluminum materials from sources of corrosion or electrolytic action contact points.
   4. Glazing:
      a. Glass shall be outside-glazed.
      b. Glass shall be held in place with extruded aluminum pressure plates anchored to the mullion using stainless steel fasteners that are spaced no more than 9" (228.6 mm) on center.
   5. Water Drainage
      a. Each light of glass shall be compartmentalized using joint plugs and silicone sealant to divert water to the horizontal weep locations.
      b. Weep holes shall be located in the horizontal pressure plates and covers to divert water to the exterior of the building.

B. Related Products Installation:
   1. Sealants (Perimeter):
      a. Refer to Joint Treatment (Sealants) Section.
   2. Glass:
      a. Refer to Glass and Glazing Section.
      b. Reference: ANSI Z97.1, CPSC 16 CFR 1201, and GANA Glazing Manual.

3.3 FIELD QUALITY CONTROL

A. Field Tests:
   1. Architect shall select curtain wall units to be tested as soon as a representative portion of the project has been installed, glazed, perimeter-caulked, and cured.
   2. Conduct tests for air infiltration and water penetration with manufacturer's representative present.
   3. Tests that do not meet the specified performance requirements and units that have deficiencies shall be corrected as part of the contract amount.
   4. Testing shall be performed per AAMA 503 by a qualified independent testing agency. Refer to Testing Section for payment of testing and testing requirements.
   5. Air Infiltration Tests:
      a. Conduct tests in accordance with ASTM E 783.
      b. Allowable air infiltration shall not exceed 1.5 times the amount indicated in the performance requirements or 0.09 cfm/ft^2, whichever is greater.
   6. Water Infiltration Tests:
      a. Conduct tests in accordance with ASTM E 1105.
      b. No uncontrolled water leakage is permitted when tested at a static test pressure of two-thirds the specified water penetration pressure but not less than 8 psf (383 Pa).

B. Manufacturer's Field Services:
   1. Upon owner’s written request, provide periodic site visit by manufacturer’s field service representative.

3.4 ADJUSTING, CLEANING, AND PROTECTION

A. Adjusting: Not applicable.

B. Protection:
   1. Protect installed product’s finish surfaces from damage during construction.
   2. Protect aluminum curtain wall system from damage from grinding and polishing compounds, plaster, lime, acid, cement, or other harmful contaminants.

C. Cleaning:
   1. Repair or replace damaged installed products.
   2. Clean installed products in accordance with manufacturer’s instructions prior to owner’s acceptance.
   3. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during the construction period.
   4. Remove construction debris from project site and legally dispose of debris.

END OF SECTION 084413

NOTES AND DISCLAIMERS

Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor. It is the responsibility of the owner, the specifier, the architect, the general contractor, and the installer and the fabricator/transformer, consistent with their roles, to determine the appropriate materials for a project in strict conformity to all applicable national, regional and local building codes and regulations.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

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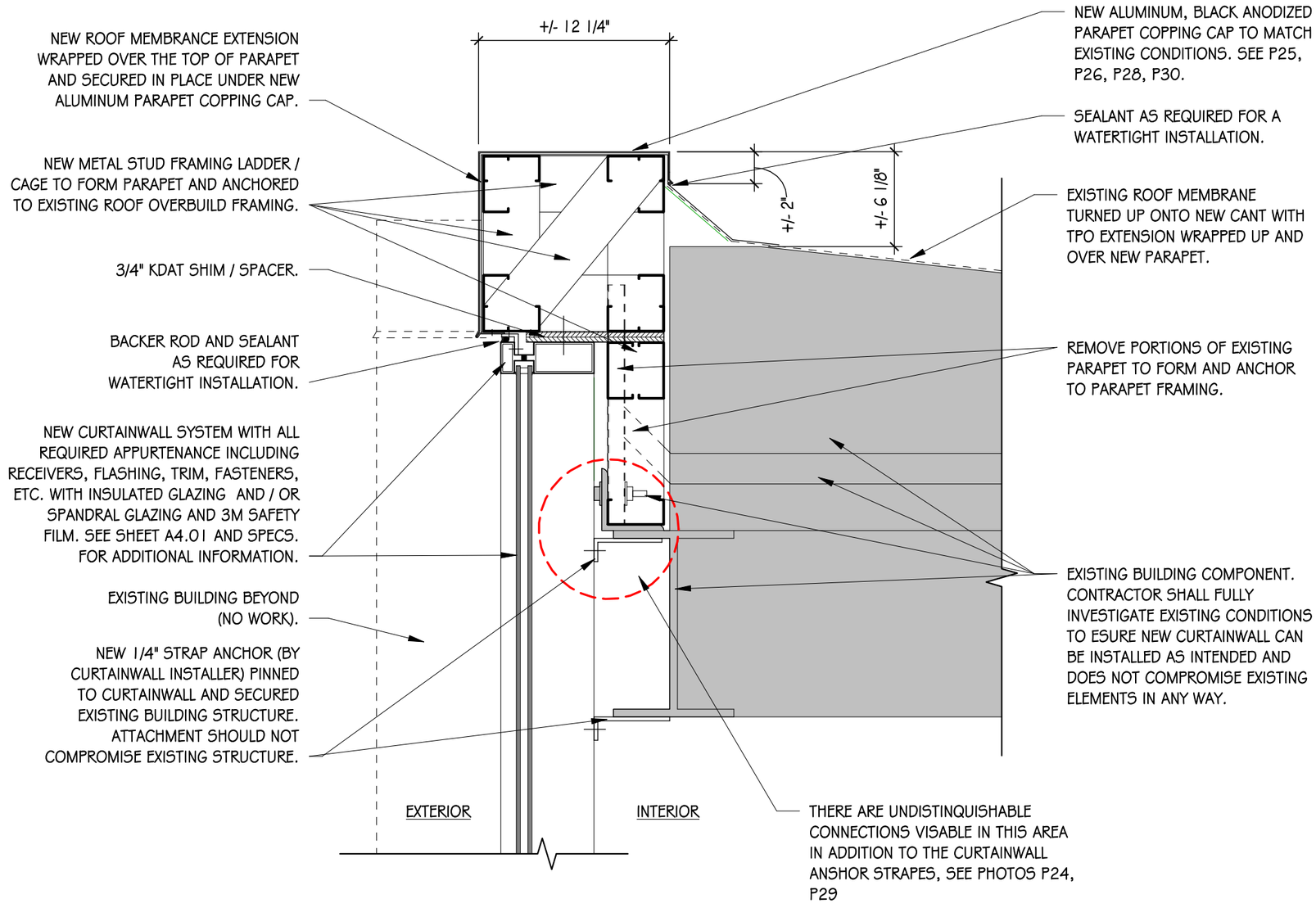

1 CURTAINWALL @ PARAPET DETAIL @ UNIT A, B, C, D, E, F

SCALE: 1 1/2" = 1'-0"

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HNHS - WINDOW REPLACEMENT

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DATE
11/24/25

PROJECT
2025.0012

TITLE
ADDENDUM #2

SHEET
G2.1