

ADDENDUM NO. 2

TO

RED CLAY CONSOLIDATED SCHOOL DISTRICT
LINDEN HILL RENOVATIONS
BID PACKAGE 'A'

This addendum is hereby made part of the Project Manual and Drawings dated January 23, 2015.

The Project Manual and Drawings shall be supplemented or amended as specified herein.

This Addendum contains changes to the requirement of the Project Manual. Such changes shall be incorporated into the Contract Documents and shall apply to work with the same meaning and force as if they had been included in the original Documents. Whenever this Addendum modifies a portion of a paragraph of the Project Manual, the remainder of the paragraph affected shall remain in force. Added information is shown as **Bold**, deleted information is shown as ~~striketrough~~.

This Addendum contains changes to the requirement of the Drawings. Such changes shall be incorporated into the Contract Documents and shall apply to work with the same meaning and force as if they had been included in the original Documents. Whenever this Addendum modifies a portion of any drawing, the remainder of the drawing affected shall remain in force. Added, deleted or revised information is shown as "clouded".

The conditions and terms of the basic Contract Documents shall govern work unless otherwise described in this Addendum. Whenever the conditions of work, and the quality or quantity of materials, or workmanship are not fully described in this Addendum, the conditions of work included in the basic Contract Documents for similar items of work shall apply to the work described in this Addendum.

If no similar items of work are included in the basic Contract Document, the best quality of material and workmanship shall apply and all work shall be subject to the written acceptance of the Architect.

THE BID OPENING DATE REMAINS THE SAME. ALL BIDS ARE DUE AT THE RED CLAY CONSOLIDATED SCHOOL DISTRICT OFFICE 1798 LIMESTONE RD, WILMINGTON, DELAWARE 19804 UNTIL 2:00 P.M. LOCAL TIME ON MARCH 12, 2015.

THE LAST DAY FOR QUESTIONS WAS THURSDAY, MARCH 5, 2015

BIDDERS ARE ADVISED THAT THE ONLY RELIABLE SOURCE OF DOCUMENTS FOR THIS SOLICITATION IS THE EDIS FTP SITE. BIDDERS THAT RELY ON INFORMATION PUBLISHED ON ANY OTHER COMMERCIAL WEBSITES DO SO AT THEIR OWN RISK.



Addendum No. 2
March 9, 2015

Addendum No. 2 – Consists of the following:

- I. Response to Bidders' Questions
- II. Revisions to Project Manual/Specifications
- III. Clarifications
- IV. Revisions to Drawings

**I. RESPONSES TO BIDDERS' QUESTIONS**

The following clarification is requested for the construction documents:

1. In carpentry scope line item #4 it states to carry an allowance of \$8,000.00 for temporary weather protection at windows between demolition and new window installation. Should we also assume it has to be constructed in order to provide building security?

Answer: See revised summary of work clarifying construction type and extent of work. Temporary protection will be required at all window openings and allowance will be eliminated.

2. On sheet A2.5 detail 1 on the way on the left side shows keynotes 1, 2, 3, & 6 however these are not bolded nor does it show any demo on the floor plan. Can you clarify if this does indeed come out?

Answer: The referenced door and window do not come out.

3. Are we providing a new BAS as indicated in note #17 on 8.0 (Trane or Johnson Controls as noted in specs)? Or are we connecting new equipment to existing BAS?

Answer: We are connecting new equipment to existing BAS. Approved BAS vendors are Seiberlich Trane and Modern Controls. Either of these contractors can integrate into the existing BAS system.

4. Roller shade spec includes two types of shade hardware; RS-1 & RS-2, but I can't find any information regarding the types and their locations in the drawings. Please clarify.

Answer: All roller shades are type RS-1 extended bracket

5. Are window Type K to have roller shades?

Answer: Yes, ADD roller shades to window type "K"

II. REVISIONS TO PROJECT MANUAL/SPECIFICATIONS**A. SECTION 004100 – BID FORMS**

1. **Contract 01 - CARPENTRY AND GENERAL WORKS** - DELETE this section in its entirety and INSERT new section attached.

B. SECTION 011100 – SUMMARY OF WORK - DELETE this section in its entirety and INSERT new section attached.**C. SECTION 012100 – ALLOWANCES**

1. Contract No A 01 DELETE the following allowances:
 - a. This contractor to include an allowance of \$8,000 to provide temporary weather protection at windows between demolition and installation of new windows.

D. SECTION 012200 – UNIT PRICES



1. DELETE the following unit prices:
 1. Provide unit price to provide temporary weather protection at window type A between demolition and installation of new windows
 2. Provide unit price to provide temporary weather protection at window type B between demolition and installation of new windows

E. SECTION 08 41 13.10 – ALUMINUM FRAMED STOREFRONTS

1. YKK AP Aluminum Storefronts and YKK AP Aluminum Doors are an acceptable substitution. All design criteria contained within the drawings and specifications must be maintained.

F. SECTION 08 41 13.20 – ALUMINUM FRAMED ENTRANCES AND STOREFRONTS-EXTERIOR – INSERT this section in its entirety

G. SECTION 08 51 13 – ALUMINUM WINDOWS

1. YKK AP Aluminum Windows are an acceptable substitution. All design criteria contained within the drawings and specifications must be maintained.

H. SECTION 12 24 13 –ROLLER WINDOW SHADES

1. Draper and Caco Inc are approved roller shade substitutions

III. CLARIFICATIONS

The following clarification is requested for the construction documents:

A. The basis for design for the fixed windows is a thermally broken storefront system. See attached specification 08 41 13.20 for basis of design. All glazing is to be insulated low-E 1” thick per the specifications.

B. The specification section Aluminum Windows 08 51 13 refers to the operable insert window within the storefront system. All glazing is to be insulated low-E 1” thick per the specifications.

IV. REVISIONS TO DRAWINGS

A. Architectural

1. Drawing A3.1: Door Schedule – S2A change to Aluminum Frame

END OF ADDENDUM NO. 2

CONTRACT NO. 01 CARPENTRY AND GENERAL WORKS
BID FORM

For Bids Due: _____ To: Red Clay Consolidated School District

Name of Bidder: _____

Bidder Address: _____

Contact Name: _____ E-Mail Address: _____

Delaware Business License No.: _____ Taxpayer ID No.: _____

(Other License Nos.): _____
(A copy of Bidder's Delaware Business License must be attached to this form.)

Phone No.: () _____ - _____ Fax No.: () _____ - _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

\$ _____ (\$ _____)

ALTERNATES

Alternate prices conform to applicable project specification section. Refer to specifications for a complete description of the following Alternates. An "ADD" or "DEDUCT" amount is indicated by the crossed out part that does not apply.

Alternate No. 1: Provide/Install Framing, drywall, ceilings painting as per written description in Addendum No. 01

Add/Deduct _____ (\$ _____)

UNIT PRICES

Unit prices conform to applicable project specification section. Refer to the specifications for a complete description of the following Unit Prices:

1. NONE

NOTE: The difference in price between Add and Deduct in the above Unit Prices should not exceed fifteen percent (15%).

I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for sixty (60) days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (if required).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor must be listed for each category where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the Owner, **it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work.**

<u>Subcontractor</u> <u>Category</u>	<u>Subcontractor</u>	<u>Address (City & State)</u>	<u>Subcontractors tax payer ID #</u> <u>or Delaware Business license #</u>
1. Door/Frame Supplier	_____	_____	_____
2. Mechanical	_____	_____	_____
3. Electrical	_____	_____	_____

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date _____

All the terms and conditions of *Contract No:* _____ have been thoroughly examined and are understood.

NAME OF BIDDER: _____

AUTHORIZED REPRESENTATIVE
(TYPED): _____

AUTHORIZED REPRESENTATIVE
(SIGNATURE): _____

TITLE: _____

ADDRESS OF BIDDER: _____

PHONE NUMBER: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

BID BOND

TO ACCOMPANY PROPOSAL
(Not necessary if security is used)

KNOW ALL MEN BY THESE PRESENTS That: _____ of
_____ in the County of _____ and State of _____ as
Principal, and _____ of _____ in the County of _____
_____ and State of _____ as Surety, legally authorized to do business in the State of Delaware
("State"), are held and firmly unto the Red Clay Consolidated School District in the sum of _____
_____ Dollars (S _____), or percent not to exceed _____
_____ Dollars (S _____) of amount of bid on Contract No. _____ to be paid
to the Red Clay Consolidated School District for the use and benefit of the Red Clay Consolidated School District for
which payment well and truly to be made, we do bind ourselves, our and each of our heirs, executors, administrators, and
successors, jointly and severally for and in the whole firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bounden Principal who has submitted to the
Red Clay Consolidated School District a certain proposal to enter into this contract for the furnishing of certain material
and/or services within the State, shall be awarded this Contract, and if said Principal shall well and truly enter into and
execute this Contract as may be required by the terms of this Contract and approved by the _____
this Contract to be entered into within twenty days after the date of official notice of the award thereof in accordance with
the terms of said proposal, then this obligation shall be void or else to be and remain in full force and virtue.

Sealed with _____ seal and dated this ___ day of _____ in the year of our Lord two thousand
and _____ (20__).

SEALED, AND DELIVERED IN THE PRESENCE OF

Name of Bidder (Organization)

Corporate
Seal
Attest _____

By: _____
Authorized Signature

Title

Name of Surety

Witness _____

Title

CONSENT OF SURETY

DATE _____

To:

Gentlemen:

We, the _____

(Surety Company's Address)

a Surety Company authorized to do business in the State of Delaware hereby agrees that if

(Contractor)

(Address)

is awarded the Contract No. _____

We will write the required Performance and/or Labor and Material Bond required by Paragraph 9 of the Instructions to Bidders.

(Surety Company)

By _____
(Attorney-in-Fact)

SECTION 101100 - SUMMARY OF WORK

1. RELATED DOCUMENTS

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

2. CONTRACTS

- A. The work will be performed under separate prime contracts managed by the Construction Manager.

3. ALTERATIONS & COORDINATION

- A. Contractor shall be responsible to coordinate their work with the work of others, including, but not limited to, the preparation of general coordination drawings, diagrams and schedules, and control of site utilization, from the beginning of activity, through project close-out and warranty periods.

4. KNOWLEDGE OF CONTRACT REQUIREMENTS

- A. The Contractor and his Subcontractors, Sub-subcontractors and material men shall consult in detail the Contract Documents for instructions and requirements pertaining to the Work, and at his and their cost, shall provide all labor, materials, equipment and services necessary to furnish, install and complete the work in strict conformance with all provisions thereof.
- B. The Contractor will be held to have examined the site of the Work prior to submitting his proposal and informed himself, his Subcontractors, Sub-subcontractors and material men of all existing conditions affecting the execution of the Work.
- C. The Contractor will be held to have examined the Contract Documents and modifications thereto, as they may affect subdivisions of the Work and informed himself, his Subcontractors, Sub-subcontractors and material men of all conditions thereof affecting the execution of the Work.
- D. The Scope of Work for the Contract is not necessarily limited to the description of each section of the Specifications and the illustrations shown on the Drawings. Include all minor items not expressly indicated in the Contract Documents, or as might be found necessary as a result of field conditions, in order to complete the Work as it is intended, without any gaps between the various subdivisions of work.
- E. The Contractor will be held to be thoroughly familiar with all conditions affecting labor

in the area of the Project including, but not limited to, Unions, incentive pay, procurements, living, parking and commuting conditions and to have informed his Subcontractors and Sub-subcontractors thereof.

5. CONTRACT DOCUMENTS INFORMATION

- A. The Contract Documents are prepared in accordance with available information as to existing conditions and locations. If, during construction, conditions are revealed at variance with the Contract Documents, notify the Construction Manager immediately, but no more than three (3) days from the day the variance is first known. Failure to give timely notice shall operate to waive any claim Contractor might otherwise have for an adjustment to Contract Time or Sum as a consequence of such variance.
- B. The Specifications determine the kinds and methods of installation of the various materials, the Drawings establish the quantities, dimensions and details of materials, the schedules on the Drawings give the location, type and extent of the materials.
- C. Dimensions given on the Drawings govern scale measurements and large scale drawings govern small scale drawings, except as to anything omitted unless such omission is expressly noted on the large scale drawings.
- D. The techniques or methods of specifying to record requirements varies throughout text, and may include "prescriptive", "open generic/descriptive", "compliance with standards", "performance", "proprietary", or a combination of these. The methods used for specifying one unit of work has no bearing on requirements for another unit of work.
- E. Whenever a material, article or piece of equipment is referred to in the singular number in the Contract Documents, it shall be the same as referring to it in the plural. As many such materials, articles or pieces of equipment shall be provided as are required to complete the Work.
- F. Whenever a material, article or piece of equipment is specified by reference to a governmental, trade association of similar standard, it shall comply with the requirements of the latest publication thereof and amendments thereto in effect on the bid date.
- G. In addition to the requirements of the Contract Documents, Contractor's work shall also comply with applicable standards of the construction industry and those industry standards are made a part of Contract Documents by reference, as if copied directly into Contract Documents, or as if published copies were bound herein.
- H. Where compliance with two (2) or more industry standards, contract requirements, or sets of requirements is specified, and overlapping of those different standards or

requirements establishes different or conflicting minimums or levels of quality, then the most stringent requirements, which are generally recognized to be also the most costly, is intended and will be enforced, unless specifically detailed language written into the Contract Documents clearly indicates that a less stringent requirement is to be fulfilled. Refer apparently equal but different requirements, and uncertainties as to which level of quality is more stringent, to Architect for decision before proceeding.

- I. Reference standards referenced directly in Contract Documents or by governing regulations have precedence over non-reference standards which are recognized in industry for applicability of work.
- J. Contractor's bid is based on the complete set of Contract Documents including documents not specifically issued as part of the bid pack but referenced in same.

6. SCOPE OF WORK/GENERAL INFORMATION

- A. A Scope of Work for each contract to be awarded on the project follows in this section. When a Contract has been awarded to a Contractor, the successful Contractor will be listed after the title of the Contract. When no Contract has yet been awarded, no Contractor's name will be listed. Previous Scopes of Work include addendum changes.
- B. Contractor is responsible for performing the work listed in the Summary of Work for his contract. Contractor is also responsible for knowing the work that has been assigned to preceding contracts. No additional compensation or extension of time will be allowed a Contractor due to his ignorance of the work assigned to his Contract or to other contracts which may affect his work. The Contractor is responsible, however, for all items which are covered in the Specifications and Drawings relating to their Contract if not specifically mentioned in the Summary of Work.
- C. The Construction Manager will provide on site a source for temporary electric, temporary water and portable sanitation facilities only. It is each Contractor's responsibility to make the necessary connections, including all material for temporary electric and water. Please note that utility charges for office trailers will be the responsibility of the individual Contractors.
- D. A dumpster will be provided on site for free use by Contractors to dispose of non-hazardous, common, work-related refuse. Clean-up is the responsibility of each Contractor. Clean up shall be performed on a daily basis. Contractors not complying will be advised in writing and back charged for all costs associated with the clean up of their work.
- E. Contractors are reminded that there are limited storage areas available on site. Off site storage will be the responsibility of each individual Contractor.

- F. Office trailer permits off site will be the responsibility of each individual Contractor. On site Contractor's field offices, one (1) per Contractor, if required, will be located as directed by the Construction Manager.
- G. Contractor will be prepared to discuss and submit a detailed project schedule seven (7) days after receipt of Notice to Proceed and to begin its submittal process. The Project Schedule is an integral part of this contract. Certain construction sequences and priorities must take place in order to meet the target dates. Concentrated work periods will occur and each Contractor is responsible to staff the project as required by the current Construction Schedule or as directed by the Construction Manager. Contractor will cooperate with the Construction Manager in planning and meeting the required sequences of work and Project Schedule as periodically updated by the Construction Manager.
- H. All bids must include insurance limits in accordance with Article 11 of the Section 007300 SUPPLEMENTARY CONDITIONS.
- I. Hoisting, scaffolding and material handling is the responsibility of each Contractor, unless otherwise noted.
- J. Contractor will be responsible for layout of its own work. The Construction Manager will provide benchmark and layout of the building line.
- K. Contractor will be responsible to keep clean public roadways soiled by construction traffic on a daily basis. If cleaning is not done, the Construction Manager may perform the cleaning on an overtime basis and backcharge the Contractor responsible.
- L. Contractor Scopes of Work and Schedule are interrelated. Familiarity with each is required.
- M. The Construction Manager will provide testing services for soil, concrete and steel. Other testing as required by the Contract Documents will be in accordance with the technical specifications and/or the individual scope of work. Refer to Specification Section 004500 - QUALITY CONTROL.
- N. Safety is the responsibility of each individual Contractor. The project will be governed under the guidelines of OSHA.
- O. Inter-Contractor shop drawing distribution will be performed by the Construction Manager. Contractor is individually responsible for either coordinating his work with these distributed drawings or notifying the Construction Manager, in writing, of any discrepancies.

- P. Coordination with other trades will be required. The Contractor will be required to attend periodic coordination meetings with other trades where requirements, conflicts and coordination issues will be discussed and resolved. Attendance when requested will be mandatory. If inter-Contractor coordination is not satisfactorily performed, the conflicting Contractors shall mutually share the cost to relocate and/or reinstall their work.
- Q. Contractor shall submit a schedule of values to the Construction Manager prior to the submission of their first invoice for approval on AIA G702/CMA, Application for Payment and G703, Continuation Sheet.
- R. Contractor is expected to review and coordinate its Work with the complete set of Contract Documents, including all items noted as by his trade whether or not shown on that particular set of drawings. Documents are available at the site for review.
- S. Contractor is responsible for obtaining all necessary permits required for his work, including street permits. Unless otherwise noted, building permit shall be secured by the Construction Manager. Any subcontractor who will be restricting access to street, right of way or adjacent property must notify the Construction Manager 48 hours in advance.
- T. Contractor's License: Submit a copy of all business licenses required by local and state agencies.
- U. Contractor shall absorb, without additional compensation, any and all costs of working beyond normal hours to maintain job progress in accordance with the current construction schedule.
- V. No asbestos or PCB's in or on any material or equipment will be accepted or allowed on this project. All hazardous materials will be treated in accordance with all State and Federal regulations.
- W. Daily clean up of the work is the responsibility of each individual Contractor which includes broom cleaning of their debris as required. Contractor will be individually back charged by the Construction Manager for clean up not satisfactorily performed by the Contractor.
- X. In the event asbestos is uncovered, the Contractor shall notify the Construction Manager of the areas requiring removal of asbestos. The Construction Manager shall then coordinate the removal with the Owner.
- AA. The Safety Cable System shall not be altered or removed without a written request

submitted to the Project Manager with a copy to the Field Manager. It shall be the responsibility of each and every Contractor that is removing or altering the Safety Cable System to maintain the fall protection safety provided by the safety cable and not leave the area unprotected. Each and every Contractor shall be responsible to re-install the Safety Cable System immediately after work is completed. Each and every Contractor shall be responsible to re-install the Safety Cable System in accordance to OSHA standards.

- AB. Normal work hours for this project are from 7:00 a.m. to 3:30 p.m. Any work to be performed outside of these hours must receive prior approval from the Construction Manager. Requests to work beyond normal work hours shall be submitted at least 48 hours prior.
- AC. Contractor is responsible for having a competent project superintendent/foreman on-site during all work performed under its contract.
- AD. In the event the Contractor has non-English speaking employees or subcontractors on the project, they shall have a superintendent or foreman on site, at all times, who speaks English and can communicate with Contractor's employees. Should the Contractor fail to meet this requirement, at any time, Construction Manager may direct all Work to stop until the proper supervision is on site. The Contractor will be responsible for maintaining the project work schedule and make up at its own expense, any delay to the Schedule resulting from the work stoppage.
- AE. Punch List Procedures: Contractor shall be given a copy of the punch list with his appropriate work identified. Contractor shall have nine (9) calendar work days to complete its punch list work. On the 10th day or as determined by the Construction Manager, the Construction Manager shall employ other contractors, as required, to complete any incomplete punch list work and retain from the appropriate Contractors retainage all costs incurred.
- AF. Contractor shall provide the necessary safety barricades and railings required to complete their work and comply with all OSHA, local code and contract specifications.
- AG. Liquidated Damages: - There will be no Liquidated Damages on this project
- AH. **Work is scheduled to commence at the end of to the 2014-2015 school year (approximately 6/10/15) and work completed prior to school commencing in the fall of 2015 (approximately 8/15/15). It is expected that contractors will include any costs associated with manpower and/or obtaining materials in a timely manner such that work can be completed within the allotted time during normal working hours. Any work being completed outside of normal working hours due to issues caused by the contractor will be at the expense of the contractor.**

CONTRACT NO. A 01- CARPENTRY AND GENERAL WORKS (Demolition, Masonry, Carpentry,
Window Treatments, Casework/Millwork, Doors/Frames Hardware, Drywall, Ceilings,
Painting, Flooring, Mechanical, Electrical, Final Cleaning)

A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

- Technical Specification Sections:

Division 00	Bidding and Contract Requirements
Division 01	General Requirements
Division 02	Existing Conditions
Division 04	Masonry
Division 06	Wood, Plastic, and Composites
Division 07	Thermal and Moisture Protection
Section 08 11 13	Hollow Metal Doors and Frames
Section 08 16 13	Fiberglass Doors
Section 08 71 00	Door Hardware
Section 08 80 00	Glazing
Division 09	Finishes
Division 12	Furnishings
Division 23	Mechanical
Division 26	Electrical

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

CARPENTRY/GENERAL TRADES

1. Provide labor and materials to perform the work related to all carpentry and general work.
2. All rough carpentry related to the exterior skin of the building including wood nailers and blocking and exterior sheathing. Provide blocking for new windows and storefronts. Blocking for windows and storefronts will be provided during each associated phase of work.
3. ~~This contractor to include an allowance of \$8,000 to provide temporary weather protection at windows between demolition and installation of new windows.~~ **This contractor to provide temporary enclosure for all windows and aluminum storefront doors (S2A, C6A, C6B). Temporary protection to consist of 2" x 4" frame with 5/8" plywood and Tyvek weather barrier. Enclosure will be removed when new windows and storefront are installed. NOTE: Hollow metal frames to be replaced in kind on**

the same day.

- ~~4. Provide unit price to provide temporary weather protection at window type A between demolition and installation of new windows~~
- ~~5. Provide unit price to provide temporary weather protection at window type B between demolition and installation of new windows~~
6. All rough carpentry related to the interior of the building including blocking, wood nailers, etc. for the installation of fire extinguishers, doors, windows, toilet accessories, cabinets, toilet partitions, casework, millwork, etc. including fire treating, as required.
7. Supply and install metal and wood doors and frames, including receipt of doors and frames at the curb side.
8. Supply and install finish hardware related to all doors (hollow metal, wood and FRP), including receipt of hardware at the curb side. Aluminum doors/hardware by others.
9. All field trimming required to adjust to existing conditions.
10. All millwork, casework and trim. Including, but not limited to, plastic laminate headers and sills.
11. **Include removal and replacement of plastic laminate counter as indicated on the drawings to facilitate window replacement.**
- ~~12. Fire extinguishers, cabinets and accessories.~~
13. Window treatment. (Supply and install all roller shades)
14. Recessed entrance mats and frames.
- ~~15. Wall and corner guards.~~
16. Anchoring devices, fasteners, inserts and other related items associated with the installation of the above items.
17. This Contractor shall include in the base bid 40 hours of Journeyman carpenter time and 80 hours of common labor time for work to be directed by the Construction Manager.
18. This Subcontractor shall at a minimum provide and maintain for the length of the project, one temporary fire extinguisher for each 3,000 sq. ft of the protected building area. Fire extinguishers shall be 10lb, Multi-Purpose (ABC) dry chemical, UL labeled, with a rating

- of 3a:40bc.
19. Coordinate electrical requirements with any automatic door operations.
 20. ~~Furnish digital keypad access control devices.~~ Access Control by others.
 21. Furnish hold open closers with fire alarm interface: Power wiring by Electrical Contractor. Fire alarm ties in by Electrical Contractor.
 22. Coordinate card reader requirements with electrical hardware.
 23. Include replacement of Aluminum Wrapping over existing wood fascia where indicated on plans
 24. ~~Provide unit price for replacement of 20 LF of Aluminum Wrapping over existing wood fascia.~~
 25. Supply and install complete attic stair assembly. Work to include, but not limited to, demolition, ceiling modifications, attic stair unit and frame, supports, fire rated wood framing, etc. Review architectural plans for further details.
 26. Provide temporary protection in main office and lobby to protect existing finishes, furniture, etc during demolition and construction.
 27. Poly to be provided and draped over existing furniture during each phase of construction throughout the building.

DEMOLITION

1. Provide all labor, material, trucking, equipment, hoisting, scaffolding, power, temporary facilities, permit fees, supervision, layout, clean up, etc. for the complete performance of all demolition work.
2. Remove from site all combustible material including, but not limited to wood, steel, iron, structural steel, and dispose of in a legal manner. No on site burning of material will be allowed at any time.
3. Items of demolition shall include, but not necessarily be limited to, window treatments, blocking (shown to be replaced), wall framing, masonry walls, interior partitions, Interior storefront, HM Frames, Doors, mechanical and electrical equipment and fixtures, and related equipment.
4. **Door numbers 102 through 109 to have frame, transom & door removed and replaced**

in its entirety.

5. Demolition of all interior items by this contractor. **Exterior storefront doors to be removed/replaced by others. ALL exterior hollow metal frames and associated doors to be removed & replaced by this contractor.**
6. This Contractor shall notify the Construction Manager immediately if hazardous materials (i.e. asbestos, lead, PCB's, etc.) are uncovered. At that time, all work in the affected area will be stopped until proper removal can be completed by others (i.e. hazardous material abatement contractor).
7. This Contractor shall clean public streets and sidewalks daily. This Contractor shall collect and remove from the site daily all rubbish, scrap and other debris resulting from its operations.
8. It is understood that all Work under this Contract shall be in strict accordance with the Building Code with the City, State and any other agency having jurisdiction. In the event of any conflict in any provisions of any regulatory agency and Contract Documents, the more stringent requirements shall apply.
9. This Contractor is aware of the structural capacities of various portions of the structure. Cranes, materials, deliveries and material storage, shall not exceed rated capacities without this Contractor taking appropriate steps to compensate for the imposition of loads which may exceed the design criteria and which are imposed solely by this Contractor's operations.
10. This Contractor shall provide any and all "fire watch" personnel required due to the Contractor's cutting, burning, welding or other open flame activity.
11. This Contractor shall visit the site of the proposed work, fully acquaint and familiarize himself with the conditions as they exist and the character of the operations to be carried out under the proposed Contract, and make such investigation as he may see fit so that he shall fully understand the facilities, physical conditions and restrictions affecting the work under the Contract. Claims for additional compensation and/or extensions of time because of Contractor's failure to familiarize himself with all conditions which might affect the work shall not be allowed.
12. This Contractor, in the performance of the Work under his subcontractor, shall maintain all required means of egress from the existing buildings and alter such stairs, platforms and fire escapes as required to satisfy all agencies having jurisdiction.
13. All equipment, materials and debris shall be regularly removed by this Contractor from the Site as work progresses in such manner as not to create a nuisance, and shall be

disposed of by this Contractor at his own expense, at locations to be determined by this Contractor. Permits required in connection with the disposal of the materials shall be obtained by this Contractor. Disposal shall be in accordance with all Federal, State and local laws, rules, codes, orders and regulations.

14. Materials and equipment to be salvaged or which have been sold to others by this Contractor must be promptly removed by this Contractor, and shall not be stored at the site. The offering, advertising, display or sale of materials and equipment will not be permitted.
15. Contractor shall remove debris promptly and will not burn anything on the site. Contractor shall keep required fire extinguishing equipment in serviceable condition, properly distributed so that it will be available for immediate use, particularly during any acetylene cutting operations. This Contractor shall afford adequate facilities for inspection by, and carry out the recommendations of, the local Fire Department. This Contractor shall maintain one fire riser during demolition.
16. This Contractor shall, prior to the start of Work, provide the name and location of proposed dump site to receive the demolition debris. Dump site must be licensed and acceptable to all local government agencies having jurisdiction.
17. This Contractor shall provide signed and stamped dump site debris tickets identifying the location, date, time and quantity of debris deposited at the dump site.
18. **Demolition of Windows (NOTE CD-1 on A 2.1 – 2.6) will be by abatement contractor.**
19. **Demolition of Sill (NOTE CD-2 on A 2.1 – 2.6) will be by glass/glazing contractor.**
20. **All asbestos containing glazing and window caulk to be removed by abatement contractor in conjunction with the installation schedule. All other demolition relevant to window replacement to be completed by this contractor.**

MASONRY

1. Provide masonry units, reinforcing, accessories and related work.
1. Caulking of masonry to masonry and to dissimilar materials (**caulking of storefront only to dissimilar materials by others**).
2. Integral masonry flashings, expansion joints, insulation and other related items as required.

3. Grouting of door frames at masonry openings as specified.
4. Scaffolding as required to complete the work.
5. ~~Cementitious parging.~~
6. **Include brick repointing and repairs as noted in plans and specifications.**
7. ~~Provide Unit Price for 100 SF of brick repointing.~~
8. ~~Include restoring of exterior fine aggregate façade where indicated on plans.~~
9. ~~Provide Unit Price for restoration of 100 SF of exterior fine aggregate façade.~~
10. **Include Note C-6 on drawing 4.1 and 4.2, Provide new sheathing and acrylic finish to all sides of window projection.**

HOLLOW METAL AND FINISH HARDWARE

1. Furnish and Install hollow metal doors, frames, vision panels, finish hardware, wood doors and FRP doors.
2. Do not include aluminum entrance. Keying for aluminum entrances not confirmed by Construction Manager.
3. Keying. All lock sets. Provide Owner with copy of pin schedule.
4. Construction cylinders.
5. All material to be stored by this Contractor until delivery is requested
6. Deliveries to correspond to the construction schedule.
7. Provide field assistance to Electrical and Carpentry Contractors.
8. This contractor is responsible for all field measurements required to retrofit frames and/or doors in existing openings (renovation work only).
9. Provide 48 hour notice prior to delivery. All deliveries are to be between 7:00 AM and 3:30 PM.
10. Coordinate electrical requirements with any automatic door operations (include overhead).

11. Include filling of all interior hollow metal door frames in drywall where required.
12. **All FRP doors in hollow metal frames to be supplied by this contractor. FRP doors in Aluminum frames to be supplied and installed by glass/glazing contractor.**

DRYWALL

1. Provide metal studs, insulation, gypsum wallboard, taping, spackling, plaster and stucco.
2. Provide all framing and drywall as required for soffits.
3. Batt insulation, both thermal and acoustical and related work.
4. Acoustical sealant of penetrations in insulated drywall partitions.
5. Scaffolding and lifts for this work.
6. Comebacks and out-of-sequence work may be required and as such should be included.
7. Include all necessary field measurements.
8. Provide all metal framing as indicated for back up of other materials.
9. Provide metal furring.
10. Provide all glass fiber reinforced gypsum work including materials, taping (interior only).
11. Engineered shop and installation drawings, where required in specification.
12. Patch and paint adjacent surfaces as required due to construction and/or demolition
13. **Provide ALTERNATE No 1: Provide/Install Framing, drywall, ceiling, and painting per written description contained within Addendum No 01.**

ACOUSTICAL CEILINGS

1. Provide acoustical panel ceilings, suspension system and hangers.
2. Furnish and install hold down clips where required by governing regulations for fire resistant ratings.

3. Reflected ceiling layout.
4. This Contractor shall cut openings in ceilings for sprinkler heads, lights, mechanical diffusers and grilles, etc.
5. Attic stock.
6. **Include demolition and replacement of acoustical ceiling to facilitate window replacement as indicated on the plans.**
7. ~~Provide unit price for the demolition and replacement of 20 SF of acoustical ceiling.~~

PAINT AND VWC

1. Provide all painting ~~and vinyl or fabric wall covering~~ of all walls and ceilings as indicated on the finish schedule and of all disturbed surfaces.
2. Patch and paint disturbed surfaces adjacent to demolition/construction areas.
3. Sealing all interior joints between dissimilar materials that require sealants.
4. Paint all exposed block work and concrete work as shown on the room finish schedule.
5. Prime, stain or seal all wood trim and doors.
6. Provide supplementary ventilation as required in enclosed spaces.
7. Paint and caulk all hollow metal frames and doors as shown on the door schedule.
8. Prefinished items will not be painted by this Contractor.
9. Paint all semi-exposed wood blocking as indicated on the drawing.
10. Protection of adjacent surfaces.
11. Minor patching prior to application of finishes.
12. Clean up.
13. This Contractor to allow 40 man hours and all required paint materials for these man hours to be used as directed by the Construction Manager.
14. Attic stock.

15. Final coat of paint is to be installed after ceilings are installed, if directed by Construction Manager.

FLOORING

1. Provide flooring in accordance with the finish schedule and specifications.
2. Prepare subfloor for finished flooring including leveling and patching. Base bid shall include all flashing patching and surface preparation required to perform the work of this Contractor.
- ~~3. Resilient flooring.~~
4. Carpeting.
- ~~5. Resilient base.~~
6. Resilient transition and reducer strips at edges of resilient flooring and at edges of carpeting.
7. Cleaning and protection.
8. Seaming diagrams.
9. Attic stock.
10. Provide and install entrance mat (complete installation).
11. Provide cutting and fitting around work of others.

FIRE PROTECTION

1. **Provide piping, fittings, couplings, and sprinkler heads as required for relocations and additions noted in Addendum No 01.**

MECHANICAL

1. Provide a complete mechanical system as indicated on the Drawings and in the Specifications.

2. Include any and all demolition specific to this trade. To include, but not limited to, removal and disposal of all mechanical equipment shown to be removed.
3. Division 16 of the specifications should be reviewed as it relates to the power wiring and other requirements for HVAC equipment including the coordination of furnishing and installing motor starters as provided in the specifications.
4. This Contractor shall be responsible to designate an individual within his organization, intimately familiar with this project and assigned on site, to act as the System Start-up Coordinator. This individual must be pre-approved by the Construction Manager. This individual's responsibilities shall include, but not be limited to, coordinating the start-up of all mechanical equipment, including the coordination between the Electrical Contractor, the Controls Contractor, and all testing, adjusting and balancing work. This individual shall report on a weekly basis, in written form, to the Construction Manager. These reports shall include a summary of current conditions including manufacturers' start-ups, systems' deficiencies noted to date and the remediation of same, coordination issues between trades, system interfacing and forecasting, as necessary to project the completion of each individual system within the building.
5. Equipment bases and housekeeping pads.
6. Permits/meters.
7. Pipe and duct insulation.
8. Penetrations through wall, floors, etc. including cutting, patching and fire safing.
9. Testing and balancing.
10. Clean up.
11. All guarantees and warranties to begin at the substantial completion of the entire project. Maintain equipment prior to substantial completion.
12. Hoisting, rigging and scaffolding.
13. ATC.
14. Ductwork, flex duct, grilles and diffusers.
15. Louvers and vents related to HVAC operations.
16. Roof curbs.

17. Access panels.
18. As-built drawings.
19. Include relocation of kiln vent (including, but not limited to, duct modifications and wall penetrations) as noted on architectural plans.
20. Include temp protection of Gym floor as noted on mechanical plans.
21. Include any duct modifications required at new front vestibule as indicated on architectural plans.
22. Testing and Balancing of new system.

ELECTRICAL

1. Provide a complete electrical system as indicated on the drawings, schedules and in the specifications.
2. Include any and all demolition specific to this trade.
3. Division 15 of the specifications should be reviewed as it relates to the power wiring and other requirements for HVAC equipment including the coordination of furnishing and installing motor starters and controllers as detailed in the Specifications and on the Drawings.
4. Temporary electric installation, maintenance and removal. Refer to Division 1, Specification Section 015113 - TEMPORARY ELECTRIC, for specific scope.
5. Permits and inspections.
6. Penetrations through walls, floors, etc. including cutting, patching and fire safing.
7. Testing.
8. Clean up.
9. All guarantees and warranties to begin at the substantial completion of the entire project. Maintain equipment prior to substantial completion.
10. Hoisting, rigging and scaffolding.

11. Provide a fire alarm modifications as required on plans.
12. Pull strings and boxes for voice/data boxes.
13. As-built drawings.
14. Provide rough-in and final connection and related work for equipment provided under other contracts (i.e. kitchen, elevators, HVAC, sprinkler, motorized doors, etc.). Provide power to automatic hardware. Low voltage wiring from the controller to hardware shall be provided by the Doors, Frames and Hardware Contractor.
15. **Fire alarm device relocations as indicated on Addendum 01**

FINAL CLEANING

1. Prior to cleaning and polishing any surfaces this Contractor shall confirm the cleaning requirements from the manufacturer's literature provided for each separate surface. All cleaning should conform to these requirements.
2. Clean all new window units, interior and exterior.
3. Clean new interior door glass, side glass, vestibules, and entrance doors.
4. Vacuum all floor areas within construction areas, i.e., carpet, vinyl floor, ceramic tile, Genuwood, epoxy floor, seamless floors, etc.
5. Clean and polish disturbed areas within construction scope:
 - Casework and cabinets - interior of units and exterior of units, complete
 - Countertops
 - Soffits
 - All woodwork, i.e., railings, baseboards, doors, etc.
 - Vinyl base
 - Wall protection system
 - Ceramic tile walls
 - Miscellaneous metals
 - Window frames
 - **NOTE: ONLY dirt/debris created via construction is to be cleaned. Entire school is not to be cleaned.**
6. Wet mop/clean and polish vinyl floors, per manufacturer's recommendations.
7. ~~Dust all lighting fixtures (Note: Do not touch light fixtures with bare hands)~~
8. ~~Clean and polish all stainless steel hardware, doors, equipment, sinks, etc.~~

- 10 Include multiple trips to complete scope as follows: accommodate phased window and shade installation.

CONTRACT NO. A 02 - GLAZING/STOREFRONTS/INTERIOR GLASS AND GLAZING

A. Work included in this contract consists of, but is not necessarily limited to, all labor, materials and equipment for:

- Technical Specification Sections:

Division 0	Bidding and Contract Requirements
Division 1	General Requirements
Division 07	Thermal and Moisture Protection
Section 08 16 13	Fiberglass Doors
Section 08 41 13.10	Aluminum Framed Entrances and Storefronts - Interior
Section 08 51 13	Aluminum Windows
Section 08 71 00	Door Hardware
Section 08 80 00	Glazing

This contract also includes, but is not necessarily limited to, all labor, materials and equipment for the following:

1. Provide new and replacement windows, flashing and associated installation.
2. Provide ~~curtain wall~~, storefront, glass and glazing systems, ~~including skylights~~.
3. Provide manual aluminum door systems and handling.
4. ~~Provide automatic aluminum door systems, including hardware.~~
5. Finish hardware for aluminum doors only.
6. All glass and glazing at interior and exterior of building.
7. Caulking related to storefront doors and windows.
8. Mock-ups as required by the Drawings and Specifications.
9. Custom breakmetal trim and infill.
10. Include all aluminum flashing.
11. Hoisting/scaffolding related to the work of this Contract.
12. Coordinate edge of slab tolerances and field verify all rough openings.

13. Caulk between the materials supplied under this section and the adjacent surfaces.
14. Provide interior glass and glazing systems.
15. Interior door, partition, vision panel and window glass.
16. Caulking related to interior glazing.
17. Do not provide interior hollow metal or hardware. These items will be provided by others.
18. Coordinate glass types with partition and door fire ratings. Contact Construction Manager with any discrepancies.
19. Include all necessary design labor and quick-ship costs (if any) to supply windows such that they are ordered and can be delivered to the site for installation during each phase as shown on the construction schedule. Project start estimated to be 6/10/15 and completion 8/15/15.
20. All asbestos containing glazing and window caulk to be removed by abatement contractor in conjunction with the installation schedule. All other demolition relevant to window **and exterior storefront** replacement to be completed by this contractor.
21. Supply and installation of plastic laminate sill and/or headers and blocking is to be by others.
22. Window treatment demolition and installation is by others.
23. Provide a \$10,000 allowance to be used at the discretion of the Construction Manager.
24. **Demolition of Windows (NOTE CD-1 on A 2.1 – 2.6) will be by abatement contractor.**
25. **Demolition of Sill (NOTE CD-2 on A 2.1 – 2.6) will be by glass/glazing contractor.**
26. **All FRP doors in hollow metal frames to be supplied by others. FRP doors in Aluminum frames to be supplied and installed by glass/glazing contractor.**
27. **If Window installation is not complete prior to school commencing, work will need to be completed on 2nd shift at no additional expense to the Owner.**

END OF SECTION

SECTION 012100 - ALLOWANCES

1. RELATED DOCUMENTS

- 1.1 The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary and other Conditions, if any) and Division 1 as appropriate, apply to the Work specified in this Section.
- 1.2 Refer to provisions in AIA Document A232 – 2009 EDITION, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, CONSTRUCTION MANAGER AS ADVISOR EDITION, for requirements in addition to those specified in Division 1.
- 1.3 Refer to Scope Information Sheets for all contracts bound in the Project Manual under Section 011100 - SUMMARY OF WORK. The Scope Information Sheets describe generally the work included in each contract, but the work is not necessarily limited to that described.
- 1.4 For work being constructed under separate prime contracts, provisions of this Section apply to each contract being bid.
- 1.5 Include in the Contract Sum all lump sum and unit cost allowances stated in the Contract Documents.
- 1.6 Designate in the construction progress schedule the delivery dates for products specified under each allowance.
- 1.7 Designate in the Schedule of Values the quantities of materials required under each unit cost allowance.

2. ALLOWANCES FOR PRODUCTS

- 2.1 The amount of each allowance includes:
 - A. The cost of the product or labor to the Contractor or Subcontractor, less any applicable trade discounts.
 - B. Delivery to the site.
 - C. Labor required under the allowance, only when labor is specified to be included in the allowance. If labor is not specified to be included in the allowance, it shall be included in the Contractor's bid and in the resulting Contract Sum.

-
- D. Applicable taxes.
- E. Profit and overhead.
- 2.2 In addition to the amount of each allowance, include in the Contract Sum the Contractor's costs for:
- A. Handling at the site; including unloading, uncrating and storage.
- B. Protection from the elements and from damage.
- C. Labor for installation and finishing, except where labor is specified to be a part of the allowance.
- D. Other expenses required to complete the installation.
- E. Contractor's and Subcontractor's overhead and profit.
- 2.3 Refer to Scope Information Sheets under Section 011100 - SUMMARY OF WORK for the amount of each lump sum allowance and for work specified in the specification sections listed below:
- A. Contract No A 01 – Carpentry and General Works
- a. ~~This contractor to include an allowance of \$8,000 to provide temporary weather protection at windows between demolition and installation of new windows.~~
- b. ~~Include allowance for removal and replacement of approximately 50 SF of plastic laminate counter in the Art Room to facilitate window replacement.~~
- c. This Contractor shall include in the base bid 40 hours of Journeyman carpenter time and 80 hours of common labor time for work to be directed by the Construction Manager.
- d. ~~Include 1,000 SF of brick repointing.~~
- e. ~~Include demolition and replacement of 1,600 SF of acoustical ceiling to facilitate window replacement.~~
- f. This Contractor to allow 40 man hours for painting and all required paint materials for these man hours to be used as directed by the Construction Manager
- B. Contract No A 02 – Glazing/Storefronts/Interior Glass and Glazing
- a. Provide a \$10,000 allowance to be used at the discretion of the Construction Manager.

3. ADJUSTMENT OF COSTS

- 3.1 Should the net cost be more or less than the specified amount of the allowance, the Contract Sum will be adjusted accordingly by Change Order.
- A. For products and labor specified under a unit cost allowance, the unit cost shall apply to the quantities actually used with a nominal allowance for waste, as determined by receipted invoices, or by field measurement.
- 3.2 At Contract closeout, reflect all approved changes in Contract amounts in the final statement of accounting.

END OF SECTION

SECTION 012200 - UNIT PRICES

1. GENERAL PROVISIONS

- 1.1 The general provision of the Contract, including the Conditions of the Contract (General, Supplementary and other conditions, if any) and Division 1 as appropriate, apply to the Work specified in this Section.
- 1.2 Refer to provisions in AIA Document A232 – 2009 EDITION, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, CONSTRUCTION MANAGER AS ADVISOR EDITION, for requirements in addition to those specified in Division 1.
- 1.3 For work being constructed under separate prime contract, provisions of this Section apply to each contract being bid.

2. BASE BID

- 2.1 The Base Bid shall consist of all work shown or specified in the Contract Documents, exclusive of any Additive Unit Prices specified herein.
- 2.2 The Base Bid shall include all work in any Subtractive Unit Prices specified herein.

3. UNIT PRICES

- 3.1 State in the Bid Form the amount to be added to (or subtracted from) the Base Bid per unit of measurement for each Unit Price specified. State this amount to include all overhead and profit. No surcharge in addition to the Unit Price listed will be permitted.
- 3.2 See Section 002113, INSTRUCTIONS TO BIDDERS for related information.
- 3.3 For description of Unit Prices requested, refer to the specification. The method of stating the Unit Prices is described in the Bid Form.
- 3.4 Where both add and deduct unit prices are requested, there shall not be more than a 15% variation between the two.

4. APPLICATION OF UNIT PRICES

- 4.1 Unit prices stated in the Bid Form will apply from the time the Bid is submitted until Contract completion.

5. MEASUREMENT OF QUANTITIES

5.1 Quantities shall be determined by field measurement by contractor personnel and as verified by the Construction Manager.

5.2 At the Contractor's option, and at his expense, measurement may be made by a registered surveyor.

6. LIST AND DESCRIPTION OF UNIT PRICES - NONE

In addition to the scope of work shown within the project documents:

- ~~1. Provide unit price to provide temporary weather protection at window type A between demolition and installation of new windows~~
- ~~2. Provide unit price to provide temporary weather protection at window type B between demolition and installation of new windows~~
- ~~3. Provide unit price for replacement of 20 LF of Aluminum Wrapping over existing wood fascia.~~
- ~~4. Provide unit price for 100 SF of brick repointing~~
- ~~5. Provide unit price for restoration of 100 SF of exterior fine aggregate façade.~~
- ~~6. Provide unit price for the demolition and replacement of 20 SF of acoustical ceiling.~~

END OF SECTION

SECTION 08 41 13.20

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS-EXTERIOR

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: Kawneer Architectural Aluminum Storefront Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of storefront units.
 - 1. Types of Kawneer Aluminum Storefront Systems include:
 - a. Trifab[®] VG 451T Storefront System – 2" x 4-1/2" (50.8 mm x 114.3 mm) nominal dimension; Thermal; Front, Center, Back, Multi-Plane, Screw Spline, Shear Block, Punched Opening Fabrication.
- B. Related Sections:
 - 1. Division 07 84 00 "Firestopping"
 - 2. Division 07 90 05 "Joint Sealers"
 - 3. Division 084113.10 "Aluminum-Framed Entrances and Storefronts-Interior"

1.3 DEFINITIONS

- A. Definitions: For fenestration industry standard terminology and definitions refer to American Architectural Manufacturers Association (AAMA) – AAMA Glossary (AAMA AG).

1.4 PERFORMANCE REQUIREMENTS

- A. General Performance: Aluminum-framed storefront system shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:
 - 1. Design Wind Loads: Determine design wind loads applicable to the Project from basic wind speed indicated in miles per hour, according to ASCE 7, Section 6.5, "Method 2-Analytical Procedure," based on mean roof heights above grade indicated on Drawings.
 - a. Basic Wind Speed (MPH): (110)
 - b. Importance Factor (I, II, III): (III)
 - c. Exposure Category (A, B, C, D): (B)
- B. Storefront System Performance Requirements:

1. Wind loads: Provide storefront system; include anchorage, capable of withstanding wind load design pressures of 30 lbs./sq. ft. inward and 40 lbs./sq. ft. outward.
2. Air Infiltration: The test specimen shall be tested in accordance with ASTM E 283. Air infiltration rate shall not exceed 0.06 cfm/ft² (0.3 l/s · m²) at a static air pressure differential of 6.24 psf (300 Pa).
3. Water Resistance: The test specimen shall be tested in accordance with ASTM E 331. There shall be no leakage at a minimum static air pressure differential of 8 psf (383 Pa) as defined in AAMA 501.
4. Uniform Load: A static air design load of 20 psf (958 Pa) shall be applied in the positive and negative direction in accordance with ASTM E 330. There shall be no deflection in excess of L/175 of the span of any framing member. 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.
5. Thermal Transmittance (U-factor): When tested to AAMA Specification 1503, the thermal transmittance (U-factor) shall not be more than:
 - a. Glass to Exterior – 0.47 (low-e).
 - b. Glass to Center – 0.44 (low-e).
 - c. Glass to Interior – 0.41 (low-e).
6. Condensation Resistance (CRF): When tested to AAMA Specification 1503, the condensation resistance factor shall not be less than:
 - a. Glass to Exterior – 70_{frame} and 69_{glass} (low-e).
 - b. Glass to Center – 62_{frame} and 68_{glass} (low-e).
 - c. Glass to Interior – 56_{frame} and 67_{glass} (low-e).
7. Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC): When tested to AAMA Specification 1801 and in accordance with ASTM E1425 and ASTM E90, the STC and OITC Rating shall not be less than:
 - a. Glass to Exterior – 38 (STC) and 31 (OITC)
 - b. Glass to Center – 37 (STC) and 30 (OITC)
 - c. Glass to Interior – 38 (STC) and 30 (OITC)

1.5 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum frame storefront system indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, hardware, and attachments to other work, operational clearances and installation details.
- C. Samples for Initial Selection: For units with factory-applied color finishes including samples of hardware and accessories involving color selection.
- D. Samples for Verification: For aluminum framed storefront system and components required.
- E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for each type of aluminum-framed storefront.
- F. Fabrication Sample: Of each vertical-to-horizontal intersection of aluminum-framed systems, made from 12" (300 mm) lengths of full-size components and showing details of the following:

1. Joinery, including concealed welds.
2. Anchorage.
3. Expansion provisions.
4. Glazing.
5. Flashing and drainage.

G. Other Action Submittals:

1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An installer which has had successful experience with installation of the same or similar units required for the project and other projects of similar size and scope.
- B. Manufacturer Qualifications: A manufacturer capable of providing aluminum framed storefront system that meet or exceed performance requirements indicated and of documenting this performance by inclusion of test reports, and calculations.
- C. Source Limitations: Obtain aluminum framed storefront system through one source from a single manufacturer.
- D. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum framed storefront system and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements." Do not modify size and dimensional requirements.
 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.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 1. Build mockup for type(s) of storefront elevation(s) indicated, in location(s) shown on Drawings.
- F. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."
- G. Structural-Sealant Glazing: Comply with ASTM C 1401, "Guide for Structural Sealant Glazing" for design and installation of structural-sealant-glazed systems.
- H. Structural-Sealant Joints: Design reviewed and approved by structural-sealant manufacturer.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of aluminum framed storefront openings by field measurements before fabrication and indicate field measurements on Shop Drawings.

1.8 WARRANTY

- A. Manufactures Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty.
 - 1. Warranty Period: Two (2) years from Date of Substantial Completion of the project provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product:
 - 1. Kawneer Company Inc.
 - 2. Trifab® 451T (thermal) Storefront System
 - 3. 2" x 4-1/2" (50.8 mm x 114.3 mm) System Dimensions
 - 4. Glass: Center, Exterior or Interior

- B. Substitutions: Refer to Substitutions Section for procedures and submission requirements
 - 1. Product Literature and Drawings: Submit product literature and drawings modified to suit specific project requirements and job conditions.
 - 2. Certificates: Submit certificate(s) certifying substitute manufacturer (1) attesting to adherence to specification requirements for storefront system performance criteria, and (2) has been engaged in the design, manufacturer and fabrication of aluminum storefronts for a period of not less than ten (10) years. (Company Name)
 - 3. Test Reports: Submit test reports verifying compliance with each test requirement required by the project.
 - 4. Samples: Provide samples of typical product sections and finish samples in manufacturer's standard sizes.

- C. Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification, and documented by a formal change order signed by the Owner and Contractor.

2.2 MATERIALS

- A. Aluminum Extrusions: Alloy and temper recommended by aluminum storefront manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.070" wall thickness at any location for the main frame and complying with ASTM B 221: 6063-T6 alloy and temper.

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

- C. Anchors, Clips, and Accessories: 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; provide sufficient strength to withstand design pressure indicated.

- D. Reinforcing Members: 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; provide sufficient strength to withstand design pressure indicated.

- E. Sealant: 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: Reference 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 (Trifab[®] VG 451T):
 - 1. Kawneer IsoLock[®] Thermal Break with a 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.
 - a. Thermal Break shall be designed in accordance with AAMA TIR-A8 and tested in accordance with AAMA 505.
- B. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.
- C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials. Where exposed shall be stainless steel.
- D. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action
- E. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- F. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

2.4 GLAZING SYSTEMS

- A. Glazing: As specified in Division 08 Section "Glazing."
- B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.
- C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.
- D. Bond-Breaker Tape: 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. Structural Sealant: ASTM C 1184, single-component neutral-curing silicone formulation that is compatible with system components with which it comes in contact, specifically formulated and tested for use as structural sealant and approved by a structural-sealant manufacturer for use in aluminum-framed systems indicated.
 - a. Color: Black
 - 2. Weatherseal Sealant: ASTM C 920 for Type S, Grade NS, Class 25, Uses NT, G, A, and O; single-component neutral-curing formulation that is compatible with structural sealant and other system components with which it comes in contact; recommended by structural-sealant, weatherseal-sealant, and aluminum-framed-system manufacturers for this use.
 - a. Color: Matching structural sealant.

2.5 ENTRANCE DOOR SYSTEMS

- A. Entrance Doors: As specified in Division 08 41 13 Section "Aluminum Framed Entrances."
- B. Entrance Door Hardware: As specified in Division 08 41 13 Section "Door Hardware."

2.6 ACCESSORY MATERIALS

- A. Joint Sealants: For installation at perimeter of aluminum-framed systems, as specified in Division 07 Section "Joint Sealants."
- B. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30 mil (0.762 mm) thickness per coat.

2.7 FABRICATION

- A. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:
 - 1. Profiles that are sharp, straight, and free of defects or deformations.
 - 2. Accurately fit joints; make joints 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 to maintain required glazing edge clearances.
 - 6. Provisions for field replacement of glazing.
 - 7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.
- B. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.
- C. Structural-Sealant-Glazed Framing Members: Include accommodations for using temporary support device to retain glazing in place while structural sealant cures.
- D. Storefront Framing: Fabricate components for assembly using manufactures standard installation instructions.
- E. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.8 ALUMINUM FINISHES

- A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B. Factory Finishing:
 - 1. Kawneer Permanodic[®] AA-M12C22A41, AAMA 611, Architectural Class I Clear Anodic Coating.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weather tight framed aluminum storefront system installation.
 - 1. Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.
 - 2. Wood Frame Walls: Dry, clean, sound, well nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 3 inches (76 mm) of opening.
 - 3. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
 - 4. Proceed with installation only after unsatisfactory conditions have been corrected.

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 level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and 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 sliding door 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: 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. Conduct tests for air infiltration and water penetration with manufacturer's representative present. Tests not meeting specified performance requirements and units having deficiencies shall be corrected as part of the contract amount.
 - 1. Testing: Testing shall be performed by a qualified independent testing agency. Refer to Testing Section for payment of testing and testing requirements. Testing Standard per AAMA 503, including reference to ASTM E 783 for Air Infiltration Test and ASTM E 1105 Water Infiltration Test.
 - a. Air Infiltration Tests: Conduct tests in accordance with ASTM E 783. Allowable air infiltration shall not exceed 1.5 times the amount indicated in the performance requirements or 0.09 cfm/ft², whichever is greater.
 - b. Water Infiltration Tests: Conduct tests in accordance with ASTM E 1105. 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 6.24 psf (300 Pa).

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

3.4 ADJUSTING, CLEANING, AND PROTECTION

- A. Clean aluminum surfaces immediately after installing aluminum framed storefronts. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
- B. Clean glass immediately after installation. Comply with glass manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.
- C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION