This **ADDENDUM** is hereby included in and made part of the Contract Documents whether or not attached thereto. All requirements of the original Specifications and Drawings shall remain in force except as noted by this **ADDENDUM No. 01.**

THE PURPOSE OF THIS ADDENDUM IS TO CHANGE THE FOLLOWING ITEMS IN THE CONSTRUCTION DOCUMENTS.

TO THE PROJECT MANUAL

S-1 INFORMATION FOR BIDDERS

Section 3.A

REPLACE: "10:30 AM local time on Wednesday, August 14, 2024"

With: "9:30 AM local time on Wednesday, August 21, 2024"

S-2 APPENDIX "E" – COUNTY OF ERIE – CONTRACT REFERENCE DOCUMENTS

Exhibit 1 – Example Agreement; Completion Time

REPLACE: "within 000 calendar days"

With: "within 365 calendar days"

S-3 SECTION 012100 – ALLOWANCES

Part 3; Section 3.3. – Schedule of Allowances;

REPLACE: paragraphs A and B **in their entirety**

With: "A. Allowance No. 1: Lump-Sum Allowance: Include the sum of $200,000 for use at direction of the Owner to address unforeseen conditions or additional scope. This allowance will be utilized on the project on a T&M or Lump Sum as negotiate depending on the necessary scope.

1. This allowance includes material cost, receiving, handling, and installation, and Contractor overhead and profit."

REPLACE: "C. Allowance No. 3: Unit-Cost Allowances:"

With: "B. Allowance No. 2: Unit-Cost Allowances:"

S-4 SECTION 012300 – ALTERNATES

ADD: Specification Section 012300 – Alternates

S-5 SECTION 014100 – SPECIAL INSPECTIONS

ADD: Specification Section 014100 – Special Inspections
ADD: Appended Document – Statement of Special Inspections

S-6 SECTION 075323 – ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

REPLACE: Part 2; Section 2.4. – Roof Insulation; paragraph B – Polyisocyanurate Board Insulation **in its entirety.**

With: Part 2; Section 2.4. – Roof Insulation; paragraph B – Expanded Polystyrene Board Insulation

S-7 SECTION 080152.62 – WOOD WINDOW AND DOOR REPAIR

ADD: Specification Section 080152.62 – Wood Window and Door Repair

S-8 SECTION 081423 – CLAD WOOD DOORS

ADD: Specification Section 081423 – Clad Wood Doors

S-9 SECTION 085113 – ALUMINUM WINDOWS

ADD: Specification Section 085113 – Aluminum Windows

S-10 SECTION 085200 – WOOD SINDOWS

ADD: Specification Section 085200 – Wood Windows

S-11 SECTION 087100 – DOOR HARDWARE

ADD: Specification Section 087100 – Door Hardware

S-12 SECTION 087101 – DOOR HARDWARE SCHEDULE

ADD: Specification Section 087101 – Door Hardware Schedule

S-13 SECTION 265000 – LIGHTING

ADD: Article 3.8 – OWNER-FURNISHED, CONTRACTOR-INSTALLED LUMINAURES as follows:
1.) The Owner will furnish the following luminaires to the contractor for installation:
   a. (6) LF2
   b. (11) LF3

TO THE DRAWINGS – The Drawings have been re-issued in their entirety. Below identifies drawings which have been revised as part of this addendum.

GENERAL:

D-1 S001 – GENERAL NOTES

REPLACE: Drawing Sheet S001 – GENERAL NOTES
WITH: Attached Drawing Sheet S001 – GENERAL NOTES

D-2 S100 – FIRST FLOOR PLAN EXISTING FRAMING AND SELECTIVE DEMOLITION

REPLACE: Drawing Sheet S100 – FIRST FLOOR PLAN EXISTING FRAMING AND SELECTIVE DEMOLITION
WITH: Attached Drawing Sheet S100 – FIRST FLOOR PLAN EXISTING FRAMING AND SELECTIVE DEMOLITION

D-3 S101 – SECOND FLOOR AND ROOF EXISTING FRAMING AND SELECTIVE DEMOLITION

REPLACE: Drawing Sheet S101 – SECOND FLOOR AND ROOF EXISTING FRAMING AND SELECTIVE DEMOLITION

WITH: Attached Drawing Sheet S101 – SECOND FLOOR AND ROOF EXISTING FRAMING AND SELECTIVE DEMOLITION

D-4 S102 – NEW FRAMING PLAN

REPLACE: Drawing Sheet S102 – NEW FRAMING PLAN
WITH: Attached Drawing Sheet S102 – NEW FRAMING PLAN

D-5 S501 – STRUCTURAL DETAILS

REPLACE: Drawing Sheet S501 – STRUCTURAL DETAILS
WITH: Attached Drawing Sheet S501 – STRUCTURAL DETAILS

D-6 S502 – STRUCTURAL DETAILS AND SECTIONS

REPLACE: Drawing Sheet S502 – STRUCTURAL DETAILS AND SECTIONS
WITH: Attached Drawing Sheet S502 – STRUCTURAL DETAILS AND SECTIONS

D-7 AD100 – BASEMENT AND FIRST FLOOR DEMOLITION PLANS

REPLACE: Drawing Sheet AD100 – BASEMENT AND FIRST FLOOR DEMOLITION PLANS

WITH: Attached Drawing Sheet AD100 – BASEMENT AND FIRST FLOOR DEMOLITION PLANS

D-8 AD101 – SECOND FLOOR AND ROOF DEMOLITION PLANS

REPLACE: Drawing Sheet AD101 – SECOND FLOOR AND ROOF DEMOLITION PLANS
WITH: Attached Drawing Sheet AD101 – SECOND FLOOR AND ROOF DEMOLITION PLANS

D-9 A101 – BASEMENT AND FIRST FLOOR PLANS

REPLACE: Drawing Sheet A101 – BASEMENT AND FIRST FLOOR PLANS
WITH: Attached Drawing Sheet A101 – BASEMENT AND FIRST FLOOR PLANS

D-10 A102 – SECOND FLOOR AND ROOF PLANS

REPLACE: Drawing Sheet A102 – SECOND FLOOR AND ROOF PLANS
WITH: Attached Drawing Sheet A102 – SECOND FLOOR AND ROOF PLANS

D-11 A201 – EXTERIOR ELEVATIONS

REPLACE: Drawing Sheet A201 – EXTERIOR ELEVATIONS
WITH: Attached Drawing Sheet A201 – EXTERIOR ELEVATIONS

D-12 A301 – BUILDING SECTIONS

REPLACE: Drawing Sheet A301 – BUILDING SECTIONS
WITH: Attached Drawing Sheet A301 – BUILDING SECTIONS

D-13 A302 – BUILDING SECTIONS

REPLACE: Drawing Sheet A302 – BUILDING SECTIONS
WITH: Attached Drawing Sheet A302 – BUILDING SECTIONS

D-14 A321 – WALL SECTIONS

REPLACE: Drawing Sheet A321 – WALL SECTIONS
WITH: Attached Drawing Sheet A321 – WALL SECTIONS

D-15 A322 – WALL SECTIONS

REPLACE: Drawing Sheet A322 – WALL SECTIONS
WITH: Attached Drawing Sheet A322 – WALL SECTIONS

D-16 A501 – ENLARGED PLANS AND DETAILS

REPLACE: Drawing Sheet A501 – ENLARGED PLANS AND DETAILS
WITH: Attached Drawing Sheet A501 – ENLARGED PLANS AND DETAILS

D-17 A521 – SECTION DETAILS

REPLACE: Drawing Sheet A521 – SECTION DETAILS
WITH: Attached Drawing Sheet A521 – SECTION DETAILS

D-18 A522 – SECTION DETAILS

REPLACE: Drawing Sheet A522 – SECTION DETAILS
WITH: Attached Drawing Sheet A522 – SECTION DETAILS

D-19 A523 – SECTION DETAILS

REPLACE: Drawing Sheet A523 – SECTION DETAILS
WITH: Attached Drawing Sheet A523 – SECTION DETAILS

D-20 A602 – WINDOW SCHEDULES AND TYPES

REPLACE: Drawing Sheet A602 – WINDOW SCHEDULES AND TYPES
WITH: Attached Drawing Sheet A602 – WINDOW SCHEDULES AND TYPES

D-21 A603 – WINDOW DETAILS

REPLACE: Drawing Sheet A603 – WINDOW DETAILS
WITH: Attached Drawing Sheet A603 – WINDOW DETAILS

D-22 M101 – BASEMENT AND FIRST FLOOR PLANS - HVAC

REPLACE: Drawing Sheet M101 – BASEMENT AND FIRST FLOOR PLANS - HVAC
WITH: Attached Drawing Sheet M101 – BASEMENT AND FIRST FLOOR PLANS - HVAC

D-23 P001 – SYMBOL LIST, GENERAL NOTES AND DETAIL - PLUMBING

REPLACE: Drawing Sheet P001 – SYMBOL LIST, GENERAL NOTES AND DETAIL - PLUMBING
WITH: Attached Drawing Sheet P001 – SYMBOL LIST, GENERAL NOTES AND DETAIL - PLUMBING

D-24 P101 – BASEMENT AND FIRST FLOOR PLANS - PLUMBING

REPLACE: Drawing Sheet P101 – BASEMENT AND FIRST FLOOR PLANS - PLUMBING
WITH: Attached Drawing Sheet P101 – BASEMENT AND FIRST FLOOR PLANS - PLUMBING

D-25 E101 – BASEMENT AND FIRST FLOOR PLANS - ELECTRICAL

REPLACE: Drawing Sheet E101 – BASEMENT AND FIRST FLOOR PLANS - ELECTRICAL
WITH: Attached Drawing Sheet E101 – BASEMENT AND FIRST FLOOR PLANS – ELECTRICAL

D-26 E601 – SCHEDULES - ELECTRICAL

REPLACE: Drawing Sheet E601 – SCHEDULES - ELECTRICAL
WITH: Attached Drawing Sheet E601 – SCHEDULES - ELECTRICAL

D-27 S103 – STABLES FIRST FLOOR PLANS

REPLACE: Drawing Sheet S103 – STABLES FIRST FLOOR PLANS
WITH: Attached Drawing Sheet S103 – STABLES FIRST FLOOR PLANS

D-28 AD101 – FIRST AND SECOND FLOOR DEMOLITION PLANS

REPLACE: Drawing Sheet AD101 – FIRST AND SECOND FLOOR DEMOLITION PLANS
WITH: Attached Drawing Sheet AD101 – FIRST AND SECOND FLOOR DEMOLITION PLANS

D-29 A101 – FIRST AND SECOND FLOOR PLANS

REPLACE: Drawing Sheet A101 – FIRST AND SECOND FLOOR PLANS
WITH: Attached Drawing Sheet A101 – FIRST AND SECOND FLOOR PLANS

D-30 A103– ROOF PLAN

REPLACE: Drawing Sheet A103– ROOF PLAN
WITH: Attached Drawing Sheet A103– ROOF PLAN

END OF ADDENDUM NO. 01

COUNTY OF ERIE
DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE COMMISSIONER

DPW PROJECT # **YEAR-LOCATION-#**
VENDOR #

AGREEMENT

This Agreement made as of the _____ day of _____, 2020 by and between the County of Erie, a municipal corporation of the State of New York, having its principal place of business at The Edward A. Rath, County Office Building, 95 Franklin Street, Buffalo New York 14202, hereinafter called "County" and **AWARDEE (VENDOR)** having its principal office at **VENDOR ADDRESS, CITY, STATE, ZIP** hereinafter called the "Contractor".

All notices or other communications including service under this contract shall be deemed to have been properly given when sent, first class, postage prepaid, return receipt requested to the addresses set forth below:

For the County:
Erie County Department of Public Works
95 Franklin Street, Suite 1400
Buffalo, New York 14202

For the Contractor:
VENDOR NAME
VENDOR ADDRESS
CITY, STATE ZIP

WITNESSETH That whereas the County intends to do **DISCIPLINE** construction work in connection with the **PROJECT NAME**, located at **PROJECT ADDRESS** hereinafter called the "Project" in accordance with the Contract Documents prepared by **AE DESIGN FIRM**, having its principal offices at **AE ADDRESS**.

NOW, THEREFORE, The County and the Contractor for the consideration hereinafter set forth, agree as follows:

The Contractor agrees to furnish all necessary labor, materials, equipment, tools and services necessary to perform and complete in a workman - like manner all work required for the construction of the PROJECT, in strict compliance with the Contract Documents herein mentioned, which are hereby made a part of the Contract, including the following Addenda:

Addendum # 1 DATE
Addendum # 2 DATE

COMPLETION TIME: Work shall commence immediately upon receipt of written Notice to Proceed and shall progress pursuant to the provisions set forth in the agreement. The Contractor hereby agrees substantially complete with the work of this agreement **within 365 calendar days** from the date of issuance of the Notice to Proceed.

SUB-CONTRACTORS: The Contractor agrees to bind every sub-Contractor by the terms of the Contract Documents. The Contract Documents shall not be construed as creating any contractual relation between any sub-Contractor and the County.

AGREEMENT AMOUNT: The County agrees to pay and the Contractor agrees to accept, in full payment for the performance of this Agreement, the total amount of: **AMOUNT LONG WRITTEN Dollars ($00.00).** And be funded from **SAP Account(s) X.00000.**

a. Progress Payments will be made in accordance with the General Conditions of the Contract.

CONTRACT DOCUMENTS: the Contract is comprised of the documents listed in paragraph 1.01 of the General Conditions of the Contract. In the event that any provision of one Contract Document, conflicts with the provision of another Contract Document, the provision in that Contract Document first listed below shall govern, except as otherwise specifically stated:

a. Agreement (This Instrument)
b. Addenda to Contract Documents
c. Legal and Procedural documents other than Bonds
    1. Proposal which is attached hereto as "Appendix A".
    2. Information for Bidders
    3. Advertisements
    4. Form of Affidavit for Final Payment
    5. Form of Guarantee
d. Detailed Specifications Requirements
e. Drawings
f. General Conditions of the Contract (Sections 1 through 9, inclusive)
g. Supplementary General Conditions
h. Bonds
    1. Performance, Labor and Material Payment Bond
    2. Proposal Guaranty

AUTHORITY AND RESPONSIBILTY OF THE ARCHITECT - ENGINEERS: All work shall be done under the general administration of the Architect - Engineer. The Architect - Engineer shall decide any and all questions which may arise as to quality and acceptability of materials furnished, work performed, rate of progress of the work, interpretation of drawings and specifications, and all questions as to the acceptable fulfillment of the contract on the part of the Contractor.

SUCCESSORS AND ASSIGNS: This agreement and all of the covenants hereof shall inure to the benefit of and be binding upon the County and the Contractor respectively and his partners, successors, assigns and legal representatives. Neither the County nor the Contractor shall have the right to assign, transfer or sublet his interests or obligations hereunder without written consent of the other party.

INDEMNIFICATION: To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the County of Erie, its agents, officers and employees, from any and all liability, damage, claims, demands, costs, judgments, fees, attorney's fees or loss arising out of, directly or indirectly, or relating in any way to the performance or failure to perform under this Agreement by the Contractor or third parties under the direction or control of the Contractor, including but not limited to personal injuries. The Contractor shall defend the County, at its sole expense, against any and all claims, demands or causes of action directly or indirectly arising out of this Agreement and to bear all other costs and expenses related thereto.

EXECUTIVE ORDER No. 13 (2014): The Contractor shall comply with Erie County Executive Order 13 (2014) and agrees to complete the Certificate collectively attached hereto **as Appendix "C**" and made a part hereof. The Contractor shall make such records available, upon request, to the County's Division of Equal Employment Opportunity for review. The County shall have the right, upon reasonable notice and at reasonable times, to inspect the books and records of the Contractor, its offices and facilities, for the purpose of verifying information supplied in the Erie County Equal Pay Certification and for any other purpose reasonably related to confirming the Contractors' compliance with Erie County Executive Order 13 (2014). Notwithstanding the termination provisions contained herein, violation of the provisions of Executive Order 13 (2014) , may constitute grounds for the immediate termination of this Agreement and may constitute grounds for determining that the Contractor is not qualified to participate in future County contracts.

EXECUTIVE ORDER No. 18 (2017): The Commissioner or Division Director of the Erie County Department or Division letting the contract has determined that the project contemplated herein is subject to the provisions of Erie County Executive Order #18. Prior to the final execution of this Agreement, Contractor shall furnish to the County a fully executed and verified *Local and Disadvantaged Worker Compliance Certification*. A fillable Certification is included in **Appendix "D"**. Contractor shall make such records as deemed necessary available upon request to the Erie County Division of Equal Employment Opportunity for review. The County shall have the right, upon reasonable notice and at reasonable times, to inspect the books and records of the Contractor, for the purpose of verifying information supplied in the Local and Disadvantaged Worker Compliance Certification and for any other purpose reasonably related to confirming Contractor compliance with Erie County Executive Order #18. Notwithstanding any other termination provisions contained herein, violations of the provisions of Executive Order #18 will constitute grounds for immediate termination of the underlying contract and shall further result in the Contractor being deemed a non-responsible bidder for a period of twelve months. Once grounds for immediate termination are established, actual contract termination will be at the discretion of Erie County.

EXECUTORY: This Contract is executory only to the extent of funds appropriated and made available to the County, therefore, and no liability shall be incurred by the County beyond such available funds.

a. The Contractor agrees not to submit a Request for Payment until the Contractor receives an executed copy of this Agreement from the County.

COUNTY'S RIGHT TO TERMINATE:

a. The County, upon ten (10) days' notice to the Contractor, may terminate this Agreement in whole or in part when the County deems it to be in its best interest. In such event, the Contractor shall be compensated and the County shall be liable only for payment for services already rendered under this Agreement prior to the effective date of termination at the values established under the approved Schedule of Values. Upon receipt of notice that the County is terminating this Agreement in its best interests, the Contractor shall stop work immediately and incur no further costs in furtherance of this Agreement without the express approval of the Commissioner of Public Works, and the Contractor shall direct any approved sub-contractor to do the same. In the event of a dispute as to the value of the Work rendered by the Contractor prior to the date of termination, it is understood and agreed that the Commissioner shall determine the value of such Work rendered by the Contractor. The Contractor shall accept such reasonable and good faith determination as final.

b. In the event the County determines that there has been a material breach by the Contractor of any of the terms of the Agreement and such breach remains uncured for forty-eight (48) hours after service on the Contractor of written notice thereof, the County, in addition to any other right or remedy it might have, may terminate this Agreement and the County shall have the right, power and authority to complete the Work provided for in this Agreement, or contract for its completion, and any additional expense or cost of such completion shall be charged to and paid by the Contractor. Without limiting the foregoing, upon written notice to the Contractor, repeated breaches by the Contractor of duties or obligations under this Agreement shall be deemed a material breach of this Agreement justifying termination for cause hereunder without requirement for further opportunity to cure.

SPECIAL PROVISIONS: The County and the Contractor mutually agree that this Agreement shall be subject to the following Special Provision:

The Contractor agrees that he will hold all of the Alternate and/or Unit Prices appearing in the PROJECT PROPOSAL, "Appendix A", for the duration of the Agreement with Owner. All materials and workmanship shall be in strict accordance with specifications and drawings. The Owner, reserves the right to either accept or reject any or all of the Alternate and/or Unit Prices in the PROJECT PROPOSAL, "Appendix A". The total amount of the contract as heretofore states, shall be accordingly increased or decreased, as the case may be.

INSURANCE: During the term of this Agreement, the Contractor agrees to maintain insurance coverage consistent with the insurance requirements attached hereto and incorporated herein as **Schedule B.** Contractor agrees to name the "County of Erie" as an additional insured on all such insurance policies, and to provide to the County Attorney certificate(s) of insurance evidencing such insurance coverage prior to the commencement of any work on the Project. All insurance certificates shall be subject to approval by the office of the County Attorney.

CONFIDENTIALITY: The County agrees to assist the Contractor with the scope of work described in the Contractor's Contract by providing applicable drawing files that may include but not be limited to; drawings, specifications, approved submittals and any other reasonable information necessary to perform the Contractor's scope of work. Any and all information provided to the Contractor by The County or the Design Consultant, shall be defined as "Confidential Information".

Contractor hereby agrees to maintain any Confidential Information received or learned in preparation of the underlying scope of work, (a) in confidence to the same extent the Contractor maintains its own proprietary industrial information of similar kind and value (but at a minimum the Consultant shall use commercially reasonable efforts); (b) the Contractor agrees not to disclose such Confidential Information to any Third Party without prior consent of the County; and (c) not use such Confidential Information for any purpose except those permitted by this Agreement.

RESOLUTION: This Agreement is made and executed pursuant to resolutions of **the Erie County Legislature adopted on the 00 day of MONTH, YEAR being Communication Number 00E-00**, copy(ies) of which are annexed hereto.

COUNTY OF ERIE
DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE COMMISSIONER

This Agreement document, together with the Contract Documents listed on page A2 of the Agreement constitutes the sole and complete agreement and understanding between the Parties.

County of Erie

_____
Mark Poloncarz/Lisa Chimera
County Executive/Deputy County Executive
Dated: _____

95 Franklin Street
BUSINESS ADDRESS

Buffalo NY 14202
CITY STATE ZIP

VENDOR NAME

_____
Print Name:
Title:
Date:

VENDOR ADDRESS
BUSINESS ADDRESS

CITY **STATE** **ZIP**
CITY STATE ZIP

APPROVED AS TO CONTENT
Electronically Signed

.
COMMISSIONER 0F PUBLIC WORKS
COUNTY OF ERIE, STATE OF NEW YORK

APPROVED AS TO FORM
Electronically Signed

Document No._____
ASSISTANT ERIE COUNTY ATTORNEY
COUNTY OF ERIE, STATE OF NEW YORK

CORPORATE ACKNOWLEDGEMENT

State of New York)
County of)

On the ____day of _____, 2020, before me personally came_____, to me known who, being by me duly sworn, did depose and say that he reside(s) in _____ _____; that he is the_____of_____, the corporation described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the board of directors of said corporation, and that he signed his name thereto by like authority.

_____
Notary Public

Re: PROJECT I.D.

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to the Contractor. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:
1. Unit-cost allowances.
2. Lump-sum allowances

C. Related Requirements:

1. Section 012200 "Unit Prices" for procedures for using unit prices.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier as approved through the submittal process.

1.4 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance. These tickets should be signed by the Construction Inspector assigned to the project.

1. The above only applies to allowance draws that do not have a unit price associated with the scope of work and are authorized by the Owner.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance. These tickets should be signed by the Construction Inspector assigned to the project.

1. The above only applies to allowance draws that do not have a unit price associated with the scope of work and are authorized by the Owner.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 ALLOWANCE COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

B. See Sections 1.7 and 1.8 within this specification below for permitted markups to Lump-Sum and Unit-Price Allowances, respectively.

C. At Project closeout, a credit for unused amounts remaining in all allowances will be processed by a Change Order to the Owner
1. The credit to the Owner shall be inclusive of a reasonable overhead and profit margin for Lump-Sum Allowances. Unit Price allowances do not need to include an overhead and profit margin as Unit-Price allowances do not include this markup as part of the Base Bid Proposal.

D. Under no circumstances, is the Contractor permitted to exceed the value of the allowance without prior authorization from the Owner. Charges in excess of the allowance threshold may result in incurred costs to the Owner with no requirement by the Owner for reimbursement for the costs in excess of the allowance.
1. If allowances draws exceed the amount of the allowance and are authorized by the Owner, the amount of authorized work that exceeds the value of the allowance, will be treated as a Change Order, as defined in the General Conditions under ‘Payment for Extra or Omitted Work’ included within the Project Manual

E. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

F. All charges against an allowance are subject to the Owner and/ or Architect/ Engineer's review and authorization prior to payment of any allowance.

G. All work authorized by the Owner to be billed to an Allowance, shall have the associated certified payroll submitted within LCPtracker software. See General Conditions for additional information.

1.7 LUMP-SUM ALLOWANCES

A. Lump-Sum Allowances shall be inclusive of all applicable costs associated with executing the work as authorized by the Owner including but not limited to; installation, insurance, equipment, labor, material, delivery to Project site, startup and turn over to the Owner.

1. See the 'Information To Bidders' Section included within the Project Manual for all items required at the time of the Bid Opening.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials of an allowance shall be included as part of the Contract Sum and not part of the allowance.

C. No items within the base bid scope of work will be paid for through the allowance.

D. If no unit price is specified, changes to the base bid scope of work will be handled per following:
1. All work authorized through a lump sum allowance associated with a given prime contract shall be prepared and billed accordingly as specified in the General Conditions included in the Project Manual.
2. Work shall not commence prior to written authorization by the Owner.

E. Unused Materials: Turn over any unused or left-over materials purchased under an allowance to the Owner, after installation has been completed and accepted. The contractor may only bill the Owner for unused or left-over materials that were previously authorized to be drawn off the allowance.
1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.8 UNIT-PRICE ALLOWANCES

A. Unit prices as included in the bid proposal form will be used to charge to an allowance as applicable and as directed by the Owner.
1. Unit Price Allowances DO NOT include an overhead and profit margin to the overall allowances. Unit Prices are to be inclusive of the overhead and profit margin as determined by the contractor within the unit price item.

B. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include freight and delivery to Project site.

C. Allowances will be paid by the unit price provided as part of base bid as shown on the Proposal Form included within the bid submitted by the contractor. No additional markup is permitted on unit prices.

D. Work shall not commence prior to written authorization by the Owner.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Lump-Sum Allowance: Include the sum of $200,000 for use at direction of the Owner to address unforeseen conditions or additional scope. This allowance will be utilized on the project on a T&M or Lump Sum as negotiate depending on the necessary scope.

1. This allowance includes material cost, receiving, handling, and installation, and Contractor overhead and profit.

B. Allowance No. 2: Unit-Cost Allowances:

1. This allowance includes material cost and Contractor overhead and profit.

2. Coordinate quantity allowance adjustment with corresponding unit-price requirements in Section 012200 "Unit Prices."

3. Unit-Cost Allowance A: Include the sum of $25,000: Include Wood Framing and Sheathing as specified in 06 1000, “Rough Carpentry".

4. Unit-Cost Allowance B: Include the sum of $10,000: Include Miscellaneous and Structural Steel as specified in Section 051200 "Structural Steel Framing".

5. Unit-Cost Allowance C: Include the sum of $15,000: Include Miscellaneous Masonry Re-Pointing as specified in Section 040120.64 "Brick Masonry Repointing".

6. Unit-Cost Allowance D: Include the sum of $25,000: Include Miscellaneous Foundation Wall Repair as specified in Section 030130 “Maintenance of Cast-In-Place Concrete".

END OF SECTION

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include, as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation, whether or not indicated as part of alternate.

B. Execute accepted alternates under the same conditions as other Work of the Contract.

C. Schedule: A Part 3 "Schedule of Alternates" Article is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Bow Window

1. Base Bid: Six mulled window units to form a curved bow window as indicated on Drawing A601 and as specified in Section 085200 "Wood Windows."
2. Alternate: Three curved, mulled window units with solid wood frames, sashes, and true divided lites with individual 1” insulated glazing units at each lite to form a curved bow window as indicated on Drawing A601.

END OF SECTION 012300

SECTION 014100 – SPECIAL INSPECTIONS AND TESTING

PART 1 – GENERAL

1.1 SUMMARY

A. The Owner shall employ the services of an independent testing agency/laboratory to perform specified field inspections and laboratory testing, as defined in Statement of Special Inspections. Laboratory testing and preparation of concrete test specimens shall be paid for by Owner. Refer to respective sections for contractor's and Owner's requirements.

B. Contractor shall cooperate with laboratory to facilitate execution of its required services.

C. Employment of laboratory shall in no way relieve contractor's obligation to perform work of contract.

1.2 SPECIAL INSPECTION

A. Owner will employ services of an independent approved testing agency to perform special inspections during construction as required by the Building Code of New York State and authorities having jurisdiction. Inspections shall include but not limited to the following:

1. Verification and inspection of concrete construction per section 1705.3 and Table 1705.3 of the Building Code of New York State.

2. Verification and inspection of masonry construction per section 1705.4 of the Building Code of New York State.

3. Verification and inspection of earthwork operations per section 1705.6 of the Building Code of New York State.

1.3 RELATED REQUIREMENTS IN OTHER PARTS OF PROJECT MANUAL

A. Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities: Conditions of the contract.

1.4 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

A. Certification of products: Respective sections of specifications.

B. Test, adjust and balance of equipment: Respective sections of specifications.

C. Laboratory tests required and standards for testing: Each specification section listed.

PART 2 - PRODUCTS

2.1 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

A. Laboratory is not authorized to:
1. Release, revoke, alter or expand the requirements of the Contract Documents

2. Approve or accept any portion of work
3. Perform any duties of contractor

2.2 NOTIFICATION OF TEST FAILURE

A. Testing Laboratory shall notify the Architect/Construction Manager/Owner via telephone and in written form of any tests performed failing to meet specifications. Notification shall take place the same day the test results are obtained.

PART 3 - EXECUTION

3.1 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with laboratory personnel. Provide access to work, to manufacturer's operations.

B. Secure and deliver to laboratory, adequate quantities of representational samples of materials proposed to be used which require testing.

C. Provide to laboratory, preliminary design mix proposed to be used for concrete and other material mixes which require control by testing laboratory.

D. Furnish copies of products test reports as required.

E. Furnish incidental labor and facilities:

1. To provide access to work to be tested
2. To obtain and handle samples at project site or at source of product to be tested
3. To facilitate inspections and tests
4. For storage and curing of test samples

F. Notify Construction Manager sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

1. When tests or inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred due to contractor's negligence.

G. Make arrangements with laboratory and pay for additional samples and tests required for contractor's convenience.

H. When directed by Architect, employ and pay for services of a separate, equally qualified independent testing laboratory acceptable to Architect to perform additional inspections, sampling and testing required when initial tests indicate work does not comply with Contract Documents.

I. Refer to respective sections of specifications for additional contractor responsibilities.

J. Refer to STATEMENT OF SPECIAL INSPECTIONS following this section.

END OF SECTION 014100

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
1704.2.5 Inspection of Fabricators					
Verify fabrication/quality control procedures	In-plant review (3)	YES	Periodic		
1705.1.1 Special Cases (work unusual in nature, including but not limited to alternative materials and systems, unusual design applications, materials and systems with special manufacturer's requirements)	Submittal review, shop (3) and/or field inspection	NO			
1705.2 Steel Construction					
1. Fabricator and erector documents (verify reports and certificates as listed in AISC 360, chapter N, paragraph 3.2 for compliance with construction documents.)	Submittal review	YES	Each submittal		
2. Material verification of structural steel	Shop (3) and field inspection	YES	Periodic		
3. Embedments (verify diameter, grade, type, length, embedment. See 1705.3 for anchors.)	Field Inspection	YES	Periodic		
4. Verify member locations, braces, stiffeners, and application of joint details at each connection comply with construction documents.	Field Inspection	YES	Periodic		
5. Structural steel welding:					
a. Inspection tasks Prior to Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1	Shop (3) and field inspection	YES	Observe or Perform as noted (4)		
b. Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-2)	Shop (3) and field inspection	YES	Observe (4)		
c. Inspection tasks After Welding (Observe, or perform for each welded joint or member the QA tasks listed in AISC 360, Table N5.4-3)	Shop (3) and field inspection	YES	Observe or Perform as noted (4)		
d. Nondestructive testing (NDT) of welded joints: (see commentary)		YES			
1.) Complete penetration groove welds 5/16" or greater in risk category III or IV	Shop (3) or field ultrasonic testing - 100%	NO	Periodic		
2.) Complete penetration groove welds 5/16" or greater in risk category II	Shop (3) or field ultrasonic testing - 10% of welds minimum	NO	Periodic		
3.) Thermally cut surfaces of access holes when material t > 2"	Shop (3) or field magnetic Particle or Penetrant testing	NO	Periodic		
4.) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1.	Shop (3) or field radiographic or Ultrasonic testing	NO	Periodic		

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
5.) Fabricator's NDT reports when fabricator performs NDT	Verify reports	YES	Each submittal (5)		
6. Structural steel bolting:	Shop (3) and field inspection	NO			
a. Inspection tasks Prior to Bolting (Observe, or perform tasks for each bolted connection, in accordance with QA tasks listed in AISC 360, Table N5.6-1)		NO	Observe or Perform as noted (4)		
b. Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, table N5.6-2)		NO	Observe (4)		
1.) Pre-tensioned and slip-critical joints		NO			
a) Turn-of-nut with matching markings		NO	Periodic		
b.) Direct tension indicator		NO	Periodic		
c.) Twist-off type tension control bolt		NO	Periodic		
d.) Turn of nut without matching markings	Not Permitted	NO	Continuous		
e.) Calibrated wrench	Not Permitted	NO	Continuous		
2.) Snug-tight joints		NO	Periodic		
c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table N5.6-3)		NO	Perform (4)		
1705.2.2 Steel Construction Cold-Formed Steel Deck					
1. Material verification of cold-formed steel deck:		NO			
a. Identification markings	Field Inspection	NO	Periodic		
b. Manufacturer's certified test reports	Submittal Review	NO	Each submittal		
c. Document acceptance or rejection of deck and deck accessories.	Field Inspection	NO	Periodic		
2. Connection of cold-formed steel deck to supporting structure:	Shop (3) and field inspection	NO			
a. Welding		NO	Periodic		
1.) Welding Procedure Specifications (WPS) available and are being followed		NO	Periodic		
2.) Welding consumables identified by type/grade and are properly stored		NO	Periodic		
3.) Use of qualified welders		NO	Periodic		
4.) Acceptable environmental conditions (wind speed, moisture, temperature)		NO	Periodic		
b. Other deck fasteners	Shop (3) and field inspection	NO			
1.) Verify fasteners are in conformance with approved submittal		NO	Periodic		
2.) Verify fastener installation is in conformance with approved submittal and manufacturer's recommendations		NO	Periodic		
c. Verify size and location welds or fasteners, including support, sidelap and perimeter welds or fasteners.		NO	Periodic		
d. Verify deck installation is in conformance with current SDI QA/QC standard.		NO	Periodic		

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
3. Welded shear connectors in composite construction	Shop (3) and field inspection	NO			
a. Connectors of proper grade and dimensions		NO	Periodic		
b. Welding Procedure Specifications (WPS) available and are being followed		NO	Periodic		
c. Acceptable environmental conditions (wind speed, moisture, temperature)		NO	Periodic		
d. Verify connector installation is in conformance with approved submittal and manufacturer's recommendations		NO	Periodic		
e. Bend testing of shear connectors per construction documents		NO	Periodic		
1705.2.3 Steel Construction Open-Web Steel Joists and Joist Girders					
1. Verify installation conforms to project documents, approved submittals, including bearing and bridging details	Shop (3) and field inspection	NO	Periodic		
1705.2.4 Steel Construction - Cold Formed Steel Trusses		NO			
1. Cold-formed steel trusses spanning 60 feet or greater		NO			
a. Verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Field Inspection	NO	Periodic		
1705.3 Concrete Inspection					
1. Inspection of reinforcing steel installation	Shop (3) and field inspection	YES	Periodic		
2. Welding of Reinforcing steel	Shop (3) and field inspection	YES			
a. Verify weldability of steel other than ASTM A706.		YES	Periodic		
b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, boundary elements of special concrete structural walls and shear reinforcement.		NO	Continuous		
c. Shear reinforcement		YES	Continuous		
d. Other reinforcing steel		YES	Periodic		
3. Inspection of prestressing steel installation	Shop (3) and field inspection	NO	Periodic		
4. Inspection of anchors cast in concrete where allowable loads have been increased per section 1908.5 or where strength design is used	Shop (3) and field inspection	YES	Periodic		
5. Inspection of anchors and reinforcing steel post-installed in hardened concrete: Per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedment and tightening torque.	Field Inspection	YES	Periodic or as required by the research report issued by an approved source		

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
6. Verify use of approved design mix	Shop (3) and field inspection	YES	Periodic		
7. Fresh concrete sampling, perform slump and air content tests and determine temperature of concrete	Shop (3) and field inspection	YES	Continuous		
8. Inspection of concrete and shotcrete placement for proper application techniques	Shop (3) and field inspection	YES	Continuous		
9. Inspection for maintenance of specified curing temperature and techniques.	Shop (3) and field inspection	YES	Periodic		
10. Inspection of prestressed concrete:	Shop (3) and field inspection	NO			
a. Application of prestressing force		NO	Continuous		
b. Grouting of bonded prestressing tendons in the seismic-force-resisting system		NO	Continuous		
11. Erection of precast concrete members					
a. Inspect in accordance with construction documents	Field Inspection	YES	Per construction documents		
b. Perform inspection of welding and bolting in accordance with Section 1705.2	Field Inspection	YES	Per Section 1705.2		
12. Verification of in-situ concrete strength, prior to stressing of tendons in post tensioned concrete and prior to removal of shores and forms from beams and structural slabs	Review field testing and laboratory reports	YES	Periodic		
13. Inspection of formwork for shape, lines, location and dimensions	Field Inspection	YES	Periodic		
14. Concrete strength testing and verification of compliance with construction documents	Field testing and review of laboratory reports	YES	Periodic		
1705.4 Masonry Construction					
(A) Level 1, 2, and 3 Quality Assurance per TMS 402/TMS 602		NO			
1. Verify compliance with approved submittals	Field Inspection	NO	Periodic		

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
(B) Level 2 Quality Assurance:		NO			
1. Verification of f'm and f'_{AAC} prior to construction	Testing by unit strength method or prism test method	NO	Periodic		
(C) Level 3 Quality Assurance:		NO			
1. Verification of f'm and f'_{AAC} prior to construction and for every 5,000 SF during construction	Testing by unit strength method or prism test method	NO	Periodic		
2. Verification of proportions of materials in premixed or preblended mortar, prestressing grout and grout other than self-consolidation grout, as delivered to the project site	Field Inspection	NO	Continuous		
3. Verification of masonry units	Field Inspection	NO	Periodic		
(D) Levels 1 and 2 Quality Assurance					
1. Verification of Slump Flow and Visual Stability Index (VSI) of self -consolidation grout as delivered to the project	Field Testing	NO	Continuous		
2. Verify compliance with approved submittals	Field Inspection	NO	Periodic		
3. Verify proportions of site-mixed mortar, grout, and prestressing grout for bonded tendons	Field Inspection	NO	Periodic		
4. Verify grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages	Field Inspection	NO	Periodic		
5. Verify construction of mortar joints	Field Inspection	NO	Periodic		
6. Verify placement of reinforcement, connectors, and prestressing tendons and anchorages	Field Inspection	NO	Level 2 - Periodic		
		NO	Level 3 - Continuous		
7. Verify grout space prior to grouting	Field Inspection	NO	Level 2 - Periodic		
		NO	Level 3 - Continuous		
8. Verify placement of grout and prestressing grout for bonded tendons	Field Inspection	NO	Continuous		
9. Verify size and location of structural masonry elements	Field Inspection	NO	Periodic		
10. Verify type, size, and location of anchors, including details of anchorage of masonry to structural members, frames, or other construction	Field Inspection	NO	Level 2 - Periodic		
		NO	Level 3 - Continuous		
11. Verify welding of reinforcement (see 1705.3.2)	Field Inspection	NO	Continuous		
12. Verify type, size and locaton of veneer ties and movement joints		NO	Periodic		
13. Verify installation of adhered veneer		NO	Periodic		

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
14. Verify preparation, construction, and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F)	Field Inspection	NO	Periodic		
15. Verify application and measurement of prestressing force	Field Inspection	NO	Continuous		
16. Verify placement of AAC masonry units and construction of thin-bed mortar joints (first 5000 SF of AAC masonry)	Field Inspection	NO	Continuous		
17. Verify placement of AAC masonry units and construction of thin-bed mortar joints (after the first 5000 SF of AAC masonry)	Field Inspection	NO	Level 2 - Periodic		
		NO	Level 3 - Continuous		
18. Verify properties of thin-bed mortar for AAC masonry (first 5000 SF of AAC masonry)	Field Inspection	NO	Continuous		
19. Verify properties of thin-bed mortar for AAC masonry (after the first 5000 SF of AAC masonry)	Field Inspection	NO	Level 2 - Periodic		
		NO	Level 3 - Continuous		
20. Prepare grout specimens	Field Inspection	NO	Level 2 - Periodic		
		NO	Level 3 - Continuous		
21. Prepare mortar specimens	Field Inspection	NO	Level 2 - Periodic		
		NO	Level 3 - Continuous		
23. Observe preparation of prisms	Field Inspection	NO	Level 2 - Periodic		
		NO	Level 3 - Continuous		
24. Observe Sample Panel Construction	Field Inspection	NO	Level 2 - Periodic		
		NO	Level 3 - Continuous		
1705.5 Wood Construction					
1. inspection of the fabrication process of wood structural elements and assemblies in accordance with Section 1704.2.5	In-plant review (3)	YES	Periodic		
2. For high-load diaphragms, verify grade and thickness of structural panel sheathing agree with approved building plans	Field Inspection	NO	Periodic		
3. For high-load diaphragms, verify nominal size of framing members at adjoining panel edges, nail or staple diameter and length, number of fastener lines, and that spacing below fasteners in each line and at edge margins agree with approved building plans	Field Inspection	NO	Periodic		
4. Metal-plate-connected wood trusses spanning 60 feet or greater verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Field Inspection	NO	Periodic		

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
1705.6 Soils					
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity	Field Inspection	YES	Periodic		
2. Verify excavations are extended to proper depth and have reached proper material	Field Inspection	YES	Periodic		
3. Perform classification and testing of controlled fill materials	Field Inspection	YES	Periodic		
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill	Field Inspection	YES	Continuous		
5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly	Field Inspection	YES	Periodic		
1705.7 Driven Deep Foundations					
1. Verify element materials, sizes and lengths comply with requirements	Field Inspection	NO	Continuous		
2. Determine capacities of test elements and conduct additional load tests, as required	Field Inspection	NO	Continuous		
3. Observe driving operations and maintain complete and accurate records for each element	Field Inspection	NO	Continuous		
4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element	Field Inspection	NO	Continuous		
5. For steel elements, perform additional inspections per Section 1705.2	See Section 1705.2	NO	See Section 1705.2		
6. For concrete elements and concrete-filled elements, perform additional inspections per Section 1705.3	See Section 1705.3	NO	See Section 1705.3		
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge	Field Inspection	NO	In accordance with construction documents		
8. Perform additional inspections and tests in accordance with the construction documents	Field Inspection and Testing	NO	In accordance with construction documents		
1705.8 Cast-in-Place Deep Foundations					
1. Observe drilling operations and maintain complete and accurate records for each element	Field Inspection	NO	Continuous		

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes	Field Inspection	NO	Continuous		
3. For concrete elements, perform additional inspections in accordance with Section 1705.3	See Section 1705.3	NO	See Section 1705.3		
4. Perform additional inspections and tests in accordance with the construction documents	Field Inspection and Testing	NO	In accordance with construction documents		
1705.9 Helical Pile Foundations					
1. Verify installation equipment, pile dimensions, tip elevations, final depth, final installation torque and other data as required	Field Inspection	NO	Continuous		
2. Perform additional inspections and tests in accordance with the construction documents	Field Inspection and Testing	NO	In accordance with construction documents		
1705.11.1 Structural Wood Special Inspections For Wind Resistance					
1. Inspection of field gluing operations of elements of the main windforce-resisting system	Field Inspection	NO	Continuous		
2. Inspection of nailing, bolting, anchoring, and other fastening of components within the main windforce-resisting system	Shop (3) and field inspection	NO	Periodic		
1705.11.2 Cold-formed Steel Special Inspections For Wind Resistance					
1. Inspection during welding operations of elements of the main windforce-resisting system	Shop (3) and field inspection	NO	Periodic		
2. Inspections for screw attachment, bolting, anchoring, and other fastening of components within the main windforce-resisting system	Shop (3) and field inspection	NO	Periodic		
1705.11.3 Wind-resisting Components					
1. Roof cladding	Shop (3) and field inspection	NO	Periodic		
2. Wall Cladding	Shop (3) and field inspection	NO	Periodic		
1705.12 Special Inspections for Seismic Resistance					
1705.12.1 Inspection of structural steel in accordance with AISC 341	Shop (3) and field inspection	NO	In accordance with AISC 341		
1705.12.2 Structural Wood Special Inspections for Seismic Resistance		NO			
1. Inspection of field gluing operations of elements of the seismic-force resisting system	Field Inspection	NO	Continuous		

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
2. Inspection of nailing, bolting, anchoring, and other fastening of components within the seismic-force-resisting system	Shop (3) and field inspection	NO	Periodic		
1705.12.3 Cold-formed Steel Light-Frame Construction Special Inspections for Seismic Resistance		NO			
1.Inspection during welding operations of elements of the seismic-force-resisting system	Shop (3) and field inspection	NO	Periodic		
2. Inspections for screw attachment, bolting, anchoring, and other fastening of components within the seismic-force-resisting system	Shop (3) and field inspection	NO	Periodic		
1705.12.4 Designated Seismic Systems Verification		NO			
1. Inspect and verify that the component label, anchorage and mounting conforms to the certificate of compliance in accordance with Section 1705.12.4	Field Inspection	NO	Periodic		
1705.12.5 Architectural Components for Seismic Resistance		NO			
1. Inspection during the erection and fastening of exterior cladding and interior and exterior veneer	Field Inspection	NO	Periodic		
2. inspection during the erection and fastening of interior and exterior nonbearing walls	Field Inspection	NO	Periodic		
3. Inspection during anchorage of access floors	Field Inspection	NO	Periodic		
1705.12.6 Mechanical and Electrical Components for Seismic Resistance		NO			
1. Inspection during the anchorage of electrical equipment for emergency or standby power systems	Field Inspection	NO	Periodic		
2. Inspection during the anchorage of other electrical equipment	Field Inspection	NO	Periodic		
3. Inspection during installation and anchorage of piping systems design to carry hazardous materials, and their associated mechanical units	Field Inspection	NO	Periodic		
4. Inspection during the installation and anchorage of HVAC ductwork that will contain hazardous materials	Field Inspection	NO	Periodic		
5. Inspection during the installation and anchorage of vibration isolation systems	Field Inspection	NO	Periodic		
6. Inspection during installation of minimum clearances at mechanical and electrical equipment, including dutwork, piping systems and their structural supports, where automatic fire sprinkler systems are installed.	Field Inspection	NO	Periodic		

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
1705.12.7 Storage Racks for Seismic Resistance					
1. Inspection during the anchorage of storage racks 8 feet or greater in height	Shop and field inspection	NO	Periodic		
1705.12.8 Seismic Isolation Systems					
1. Inspection during the fabrication and installation of isolator units and energy dissipation devices used as part of the seismic isolation system	Shop and field inspection	NO	Periodic		
1705.13 Testing for Seismic Resistance					
1, Test Structural Steel elements in the seismic force-resisting systems in accordance with the quality assurance requirements of AISC 341	Shop (3) and field testing	NO	Per AISC 341		
2. For nonstruecural components, review certificate of compliance for designated seismic system components	Certificate of compliance review	NO	each submittal		
3. For designated seismic systems with specified requirements, review certificate of compliance for designated seismic system components	Certificate of compliance review	NO	each submittal		
4. Review certified mill test reports for each shipment of reinforcement used to resist earthquake-induced flexural and axial forces in reinforced concrete special moment frames, special structural walls, and coupling beams connecting special structural walls	Review certified mill test reports	NO	Each shipment		
5. Test seismic isolation system in accordance with ASCE 7 Section 17.8	Prototype testing	NO	Per ASCE 7		
1705.14 Sprayed Fire-resistant Materials					
1. Verify surface condition preparation of structural members	Field Inspection	NO	Per Section 1705.14.2		
2. Verify application of sprayed fire-resistant materials	Field inspection	NO	Per Section 1705.14.3		
3. Verify average thickness of sprayed fire-resistant materials applied to structural members	Field inspection	NO	Per Section 1705.14.4		
4. Verify density of the sprayed fire-resistant material complies with approved fire-resistant design	Field Inspection and Testing	NO	Per Section 1705.14.5		
5. Verify the cohesive/adhesive bond strength of the cured sprayed fire-resistant material	Field Inspection and Testing	NO	Per Section 1705.14.6		
6. Verify the condition of the finished application	Field Inspection and Testing	NO	Per Section 1705.14		
1705.15 Mastic and Intumescent Fire-Resistant Coatings					
1. Inspect mastic and intumescent fire-resistant coatings applied to structural elements and decks	Field Inspection	YES	Periodic, per AWCI 12-8		

SCHEDULE of SPECIAL INSPECTION SERVICES

Project: Wendt Beach Mansion and Stable Renovations

MATERIAL /ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT			
		Y/N	EXTENT	AGENT*	DATE COMPLETED
1705.16 Exterior Insulation and Finish Systems (EIFS)					
1. Verify materials, details and installations are per the approved construction documents	Field Inspection	NO	Periodic		
2. Inspection of water-resistive barrier over sheathing substrate	Field Inspection	NO	Periodic		
1705.17 Fire-Resistant Penetrations and Joints					
1. Inspect penetration firestop systems	Field testing	YES	per ASTM E2174		
2. Inspect fire-resistant joint systems	Field testing	YES	Per ASTM E2393		
1705.18 Smoke Control Systems					
1. Leakage testing and recording of device locations prior to concealment	Field Testing	NO	Periodic		
2. Prior to occupancy and after sufficient completion, pressure difference testing, flow measurements, and detection and control verification	Field testing	NO	Periodic		

INSPECTION AGENTS FIRM	ADDRESS	TELEPHONE NO.
1.		
2.		
3.		
4.		

Code references are to the 2020 Building Code of New York State, unless noted otherwise.

Notes:

1. The inspection and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the Special Inspector(s) and/or testing agencies may be subject to the approval of the Building Official and/or the Design Professional.

2. The list of Special Inspectors may be submitted as a separate document if noted so above.

3. Special Inspections as required by Section 1704.2.5 are not required where the fabricator is approved in accordance with 2020BC of NYS Section 1704.2.5.1.

4. Observe on a random basis, operations need not be delayed pending those inspections. Perform these tasks for each welded joint, bolted connection, or steel element.

5. NDT of welds completed in an approved fabricator's shop may be performed by that fabricator when approved by the AHJ. Refer to AISC 360, N6.

Are requirements for Seismic Resistance included in the Statement of Special Inspections? **NO**

Are Requirements for Wind Resistance included in the Statement of Special Inspections? **NO**

DATE: 7-Aug-24

SECTION 075323 - ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Adhered ethylene-propylene-diene-terpolymer (EPDM) roofing system.
2. Roof insulation.
3. Cover board.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 061600 "Sheathing" for wood-based, structural-use roof deck panels.
3. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
4. Section 077600 “Roof Pavers and Pedestals”
5. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.
6. Section 221423 "Storm Drainage Piping Specialties" for roof drains.

1.3 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D1079 and glossary of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to work of this Section.

1.4 PREINSTALLATION MEETINGS

A. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, air barrier Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For insulation and roof system component fasteners, include copy of SPRI's Directory of Roof Assemblies listing.

B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:

1. Layout and thickness if insulation.
2. Base flashings and membrane terminations.
3. Flashing details at penetrations.
4. Tapered insulation, thickness, and slopes.
5. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
6. Tie-in with air barrier.

C. Samples for Verification: For the following products:

D. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.6 INFORMATIONAL SUBMITTALS

1.7 LS

A. Qualification Data: For Installer and manufacturer.

B. Manufacturer Certificates:

1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

a. Submit evidence of complying with performance requirements.

2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.

C. Product Test Reports: For components of roof membrane and insulation, for tests performed by a qualified testing agency, indicating compliance with specified requirements.

D. Evaluation Reports: For components of roofing system, from ICC-ES.

E. Sample Warranties: For manufacturer's special warranties.

1.8 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing system to include in maintenance manuals.

1.9 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that is listed in SPRI's Directory of Roof Assemblies for roofing system identical to that used for this Project.

B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.11 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.12 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.

1. Special warranty includes roof membrane, base flashings, roof insulation, fasteners, cover boards, and other components of roofing system.
2. Warranty Period: 20 years from Date of Substantial Completion.

B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of roofing system such as roof membrane, base flashing, roof insulation, fasteners, cover boards, vapor retarders, for the following warranty period:

1. Warranty Period: Two years from Date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Installed roofing system and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and flashings shall remain watertight.

1. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
2. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D3746, ASTM D4272, or the Resistance to Foot Traffic Test in FM Approvals 4470.

B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.

C. Wind Uplift Resistance: Design roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897:

1. Zone 1 (Roof Area Field):
   a. ≤ 10 sq.ft. = 41.2 lbf/sq. ft..
   b. 100 sq.ft. = 32.1 lbf/sq. ft..

c. 200 sq.ft. = 29.4 lbf/sq. ft..
d. > 500 sq.ft. = 25.8 lbf/sq. ft..

2. Zone 2 (Roof Area Perimeter): From roof edge to 6 ft. inside roof edge.
   a. ≤ 10 sq.ft. = 54.3 lbf/sq. ft..
   b. 100 sq.ft. = 42.7 lbf/sq. ft..
   c. 200 sq.ft. = 39.2 lbf/sq. ft..
   d. > 500 sq.ft. = 34.6 lbf/sq. ft..

3. Zone 3 (Roof Area Corners): 6 ft. in each direction from building corner.
   a. ≤ 10 sq.ft. = 74 lbf/sq. ft..
   b. 100 sq.ft. = 50.8 lbf/sq. ft..
   c. 200 sq.ft. = 43.8 lbf/sq. ft..
   d. > 500 sq.ft. = 34.6 lbf/sq. ft..

D. SPRI's Directory of Roof Assemblies Listing: Roof membrane, base flashings, and component materials shall comply with requirements in FM Approvals 4450 or FM Approvals 4470 as part of a roofing system, and shall be listed in SPRI's Directory of Roof Assemblies for roof assembly identical for that specified for this Project.

1. Wind Uplift Load Capacity: 90 psf >.

E. Exterior Fire-Test Exposure: ASTM E108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

2.2 ETHYLENE-PROPYLENE-DIENE-TERPOLYMER (EPDM) ROOFING

A. EPDM Sheet: ASTM D4637/D4637M, Type I, nonreinforced, EPDM sheet.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated in the Work include but are not limited to the following:
   a. Carlisle SynTec Incorporated
   b. Holcim Solutions and Products US, LLC
   c. Mule-Hide Products Co., Inc.
2. Thickness: 60 mils (1.5 mm), nominal.
3. Exposed Face Color: Black.
4. Source Limitations: Obtain components for roofing system from roof membrane manufacturer or manufacturers approved by roof membrane manufacturer.

2.3 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.

1. Adhesive and Sealants: Comply with VOC limits of authorities having jurisdiction.

B. Sheet Flashing: 60-mil- (1.5-mm-) thick EPDM, partially cured or cured, according to application.

C. Protection Sheet: Epichlorohydrin or neoprene nonreinforced flexible sheet, 55 to 60 mils (1.4 to 1.5 mm) thick, recommended by EPDM manufacturer for resistance to hydrocarbons, non-aromatic solvents, grease, and oil.

D. Slip Sheet: Manufacturer's standard, of thickness required for application.

E. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.

F. Bonding Adhesive: Manufacturer's standard.

G. Seaming Material: Manufacturer's standard, synthetic-rubber polymer primer and 3-inch- (75-mm-) wide minimum, butyl splice tape with release film.

H. Lap Sealant: Manufacturer's standard, single-component sealant.

I. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.

J. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.

1. Fasteners: 1-1/2-inch (38-mm) stainless steel fasteners with neoprene washers.

K. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening components to substrate, and acceptable to roofing system manufacturer.

L. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, molded pipe boot flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

1. Provide white flashing accessories for white EPDM membrane roofing.

2.4 ROOF INSULATION

A. General: Preformed roof insulation boards manufactured or approved by EPDM roof membrane manufacturer , approved for use in SPRI's Directory of Roof Assemblies listed roof assemblies.

B. Expanded Polystyrene Board Insulation: ASTM C578, Type XV.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated in the Work include but are not limited to the following:
   a. Insulfoam
   b. Architect approved equal
2. Compressive Strength: 60 psi
3. Size: 48 by 96 inches

4. Thickness:
   a. Base Layer: 3-1/2 inches
   b. Upper Layer: 3-1/2 inches

C. Tapered Insulation: Provide factory-tapered insulation boards.

1. Material: Match roof insulation.
2. Minimum Thickness: 1/4 inch (6.35 mm).
3. Slope:

   a. Roof Field: 1/4 inch per foot (1:48) unless otherwise indicated on Drawings.
   b. Saddles and Crickets: 1/2 inch per foot (1:24) unless otherwise indicated on Drawings.

2.5 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with other roofing system components.

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.

C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:

1. Full-spread, spray-applied, low-rise, two-component urethane adhesive.

D. Cover Board: ASTM C1177/C1177M, glass-mat, water-resistant gypsum substrate, or ASTM C1278/C1278M, fiber-reinforced gypsum board.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated in the Work include but are not limited to the following:
   a. Georgia-Pacific
   b. USG Corp.
   c. National Gypsum Company
2. Thickness: 1/2 inch (13 mm).
3. Surface Finish: Unprimed.

E. Protection Mat: Woven or nonwoven polypropylene, polyolefin, or polyester fabric; water permeable and resistant to UV degradation; type and weight as recommended by roofing system manufacturer for application.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.

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

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing system installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.3 INSTALLATION OF ROOFING, GENERAL

A. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

B. Coordinate installation and transition of roofing system component serving as an air barrier with air barrier specified under Section 072726 "Fluid-Applied Membrane Air Barriers."

3.4 INSTALLATION OF INSULATION

A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at end of workday.

B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.

C. Installation Over Wood Panel Decking:

1. Install base layer of insulation with joints staggered not less than 24 inches (610 mm) in adjacent rows.
   a. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.

b. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
c. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches (610 mm).

    1) Trim insulation so that water flow is unrestricted.

d. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
e. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
f. Mechanically attach base layer of insulation using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to wood panel decks.

    1) Fasten insulation according to requirements in SPRI's Directory of Roof Assemblies for specified Wind Uplift Load Capacity.
    2) Fasten insulation to resist specified uplift pressure at corners, perimeter, and field of roof.

2. Install upper layers of insulation and tapered insulation with joints of each layer offset not less than 12 inches (305 mm) from previous layer of insulation.

    a. Install with long joints continuous and with end joints staggered not less than 12 inches (305 mm) in adjacent rows.
    b. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
    c. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
    d. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches (610 mm).

        1) Trim insulation so that water flow is unrestricted.

    e. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
    f. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
    g. Adhere each layer of insulation to substrate using adhesive according SPRI's Directory of Roof Assemblies listed roof assembly requirements for specified Wind Uplift Load Capacity and FM Global Property Loss Prevention Data Sheet 1-29, as follows:
        1) Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
        2) Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.5 INSTALLATION OF COVER BOARDS

A. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction.

1. Trim cover board neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
2. At internal roof drains, conform to slope of drain sump.
    a. Trim cover board so that water flow is unrestricted.
3. Cut and fit cover board tight to nailers, projections, and penetrations.
4. Adhere cover board to substrate using adhesive according to SPRI's Directory of Roof Assemblies listed roof assembly requirements for specified Wind Uplift Load Capacity and FM Global Property Loss Prevention Data Sheet 1-29, as follows:
    a. Set cover board in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.6 INSTALLATION OF ADHERED ROOF MEMBRANE

A. Adhere roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.

B. Unroll membrane roof membrane and allow to relax before installing.

C. Accurately align roof membrane, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

D. Bonding Adhesive: Apply to substrate and underside of roof membrane at rate required by manufacturer, and allow to partially dry before installing roof membrane. Do not apply to splice area of roof membrane.

E. In addition to adhering, mechanically fasten roof membrane securely at terminations, penetrations, and perimeters.

F. Apply roof membrane with side laps shingled with slope of roof deck where possible.

G. Adhesive Seam Installation: Clean both faces of splice areas, apply splicing cement.

1. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
2. Apply lap sealant and seal exposed edges of roofing terminations.
3. Apply a continuous bead of in-seam sealant before closing splice if required by roofing system manufacturer.

H. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape.

1. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
2. Apply lap sealant and seal exposed edges of roofing terminations.

I. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.

J. Spread sealant or mastic bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

3.7 INSTALLATION OF BASE FLASHING

A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.

B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing system, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.9 ROOFING INSTALLER'S WARRANTY

A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

1. Owner: Erie County Department of Public Works.

2. Owner's Address: 95 Franklin Street – 14th Floor, Buffalo, NY 14202.
3. Building Name/Type: Wendt Beach Mansion.
4. Address: 7676 Lake Shore Road, Derby, NY 14047.
5. Area of Work: Terrace Roof, Deck.
6. Acceptance Date: _____.
7. Warranty Period: Two (2) years from date of Substantial Completion.
8. Expiration Date: _____.

B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period Roofing Installer will, at Roofing Installer's own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:

    a. lightning;
    b. peak gust wind speed exceeding 110 mph;
    c. fire;
    d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
    e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
    f. vapor condensation on bottom of roofing; and
    g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.

2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.

5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.

1. Authorized Signature: _____.
2. Name: _____.
3. Title: _____.

END OF SECTION 075323

SECTION 080152.62 - WOOD WINDOW AND DOOR REPAIR

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes wood window and door repairs as follows:

1. Repairing interior and exterior surfaces of wood windows and doors.
2. Reglazing wood windows and doors.
3. Repair wood window and door frames.

B. Related Requirements:

1. Section 090190.52 “Maintenance Repainting”.

1.2 DEFINITIONS

A. Retain terms that remain after this Section has been edited for a project. Include only essential definitions or acronyms not well understood by the affected industry or trade.

B. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.

C. Glazing: Includes glass, glazing points, glazing tapes, glazing sealants, and glazing compounds.

D. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.

E. Window: Includes window frame, sash, wood sills, hardware, and storm window unless otherwise indicated by context.

F. Wood Window and Door Component Terminology: Wood window and door components for repair work include the following classifications:
1. Frame Components: Head, jambs, and sill.
2. Sash Components: Stiles and rails, parting bead, stop, and muntins.
3. Interior Trim: Casing, stool, and apron.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include recommendations for product application and use.
2. Include test data substantiating that products comply with requirements.

B. Shop Drawings:

1. Include field-verified dimensions and provisions for reinstallation of repaired wood windows and doors. Include plans, elevations, and sections. Include details showing sealant joints, flashing, and fastening system.
2. Include diagrams showing typical repair and replacement techniques, with enlarged details indicating materials and showing profiles, joinery, reinforcing. Include replacement parts indicating materials, method of splicing into or attaching to existing wood window and door, accessory items, and finishes.

1.5 INFORMATIONAL SUBMITTALS

A. Test and Evaluation Reports:

1. Product Test Reports: For each wood window and door repair material, for tests performed by manufacturer and witnessed by a qualified testing agency.

B. Qualification Statements:

1. Wood Window and Door Repair Specialist Qualifications: A qualified wood window and door specialist, experienced in repairing, refinishing, and replacing wood window and doors in whole and in part. Experience only in fabricating and installing new wood window and doors is insufficient experience for repairing wood window and doors:
   a. Title X Requirement: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40 CFR 745, Subpart E, and use only workers that are trained in lead-safe work practices
   b. Fifteen years of experience with similar historic preservation restoration of wood windows and doors.
   c. Ten prominent and successful projects of similar scope and complexity.
   d. Five references provided by Owners of projects of similar scope and complexity.
   e. Five references provided by Prime Contractors or Construction Mangers of projects of similar scope and complexity.

C. Sample warranties for products and workmanship.

1.6 QUALITY ASSURANCE

A. Wood-Repair-Material Manufacturer Qualifications: A firm regularly engaged in producing wood consolidant and wood-patching compound that have been used for similar wood-repair applications with successful results, and with factory-authorized service representatives who are available for consultation and Project-site inspection and on-site assistance.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For wood window and door repair material.

B. Warranty Documentation:
   1. Manufacturers' standard warranties.
   2. Wood window and door specialist's warranty on workmanship.
   3. Installer's special warranties.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store products inside a well-ventilated area and where environmental conditions comply with manufacturer's requirements; protect from weather, moisture, soiling, abrasion, extreme temperatures, and humidity.

1.9 FIELD CONDITIONS

A. Weather Limitations: Proceed with wood window and door repairs only when existing and forecasted weather conditions are within the environmental limits set by each manufacturer's written instructions and specified requirements.

PART 2 - PRODUCTS

2.1 WOOD WINDOW AND DOOR REPAIR SPECIALIST

A. Wood Window and Door Repair Specialist Firms: Subject to compliance with requirements, provide wood window and door repairs by the following:

   1. Window Specialist, Inc.

      a. Contact: Kenneth Doll
      b. Address: 188 Erie Street, Lancaster, NY 14086
      c. Phone: (716) 686-0950
      d. Email: ken@windowspecialistinc.com

2.2 WOOD WINDOW AND DOOR REPAIRS, GENERAL

A. Quality Standard: Comply with applicable requirements in Section 6, "Interior & Exterior Millwork," in AWI/AWMAC/WI's "Architectural Woodwork Standards" for construction, finishes, grades of wood window and doors, and other requirements unless otherwise indicated.

   1. Exception: Industry practices cited in Section 6, Article 1.5, Industry Practices (Millwork), of the Architectural Woodwork Standards do not apply to the work of this Section.

2.3 WOOD-REPAIR MATERIALS

A. Source Limitations: Obtain wood consolidant, wood-patching compound, and other necessary wood repair materials from single source from single manufacturer.

B. Wood Consolidant: Ready-to-use product designed to penetrate, consolidate, and strengthen soft fibers of wood materials that have deteriorated due to weathering and decay and designed specifically to enhance the bond of wood-patching compound to existing wood.

C. Wood-Patching Compound: Two-part epoxy-resin wood-patching compound; knife-grade formulation as recommended in writing by manufacturer for type of wood repair indicated, tooling time required for the detail of work, and site conditions. Compound shall be designed for filling voids in damaged wood materials that have deteriorated due to weathering and decay. Compound shall be capable of filling deep holes and spreading to feather edge.

D. Wood: Use select grade wood of existing wood window and/or door species for replacement of components.

2.4 MISCELLANEOUS MATERIALS

A. Borate Preservative Treatment: Inorganic, borate-based solution, with disodium octaborate tetrahydrate as the primary ingredient; manufactured for preserving weathered and decayed wood from further damage by decay fungi and wood-boring insects; complying with AWPA P5; containing no boric acid.

B. Cleaning Materials:

1. Detergent Solution: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium pyrophosphate (TSPP), 1/2 cup (125 mL) of laundry detergent that contains no ammonia, 5 quarts (5 L) of 5 percent sodium hypochlorite bleach, and 15 quarts (15 L) of warm water for each 5 gal. (20 L) of solution required.
2. Mildewcide: Commercial, proprietary mildewcide or a solution prepared by mixing 1/3 cup (80 mL) of household detergent that contains no ammonia, 1 quart (1 L) of 5 percent sodium hypochlorite bleach, and 3 quarts (3 L) of warm water.

C. Adhesives: Wood adhesives for exterior exposure, with minimum 15- to 45-minute cure at 70 deg F (21 deg C), in gunnable and liquid formulations as recommended in writing by adhesive manufacturer for each type of repair.

D. Fasteners: Use fastener metals that are noncorrosive and compatible with each material joined.

1. Match existing fasteners in material and type of fastener unless otherwise indicated.
2. Use concealed fasteners for interconnecting wood components.
3. Use concealed fasteners for attaching items to other work unless exposed fasteners are unavoidable or the existing fastening method.
4. For fastening metals, use fasteners of same basic metal as fastened metal unless otherwise indicated.
5. For exposed fasteners, use Phillips-type machine screws of head profile flush with metal surface unless otherwise indicated.
6. Finish exposed fasteners to match finish of metal fastened unless otherwise indicated.

E. Anchors, Clips, and Accessories: Fabricate anchors, clips, and window accessories of aluminum, nonmagnetic stainless steel, or hot-dip zinc-coated steel complying with requirements in ASTM B633 for SC 3 (Severe) service condition.

2.5 WOOD WINDOW AND DOOR FINISHES

A. Unit Repairs: Unfinished, exposed interior and exterior surfaces subject to repairs: smooth, filled, and suitably prepared for shop priming and finishing.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect adjacent materials from damage by performing wood window and door repairs.

B. Clean wood window and doors of mildew, loose paint, grease, dirt, and other debris by scrubbing with bristle brush or sponge and detergent solution. Scrub mildewed areas with mildewcide. After cleaning, rinse thoroughly with fresh water. Allow to dry before repairing or painting.

C. Condition replacement wood members to prevailing conditions at installation areas before installing.

3.2 WOOD WINDOW AND DOOR REPAIRS, GENERAL

A. Have wood window and door repairs performed only by qualified wood-window-repair specialist.

B. Appearance Standard: Completed work is to have a uniform appearance as viewed by Architect from the window interior at 10 feet (3 m) away.

C. Execution of the Work: In repairing wood window and doors, disturb them as minimally as possible and as follows:

1. Stabilize and repair wood window and doors to reestablish structural integrity and weather resistance while maintaining the existing form of each item.
2. Remove coatings and apply borate preservative treatment before repair. Remove coatings according to Section 090190.52 "Maintenance Repainting" unless otherwise indicated.
3. Repair items in place where possible.
4. Refinish wood window and doors according to Section 090190.52 "Maintenance Repainting" unless otherwise indicated.

D. Mechanical Abrasion: Where mechanical abrasion is needed for the work, use gentle mechanical methods, such as scraping and natural-fiber bristle brushing, that will not abrade wood substrate, reducing clarity of detail.

1. Repair Wood window and doors: Match existing materials and features. Repair wood window and doors by consolidating, patching, splicing, or otherwise reinforcing wood with new wood matching existing wood or with salvaged, sound, original wood.

3.3 WOOD WINDOW AND DOOR PATCH-TYPE REPAIR

A. General: Patch wood members that exhibit depressions, holes, or similar voids and that have limited amounts of rotted or decayed wood.

1. Verify that surfaces are sufficiently clean and free of paint residue before patching.
2. Remove rotted or decayed wood down to sound wood.

B. Apply borate preservative treatment to accessible surfaces after removing rotted or decayed wood and before applying wood consolidant or patching compound. Apply treatment liberally by brush to joints, edges, and ends; top, sides, and bottom. Allow treatment to dry.

C. Apply wood-patching compound to fill depressions, nicks, cracks, and other voids created by removed or missing wood.

1. Prime patch area with application of wood consolidant or manufacturer's recommended primer.
2. Mix only as much patching compound as can be applied according to manufacturer's written instructions.
3. Apply patching compound in layers as recommended in writing by manufacturer until the void is completely filled.
4. Sand patch surface smooth and flush with adjacent wood, without voids in patch material, and matching contour of wood member.
5. Clean spilled compound from adjacent materials immediately.

3.4 WOOD WINDOW, DOOR, AND FRAME MEMBER-REPLACEMENT REPAIR

A. General: Replace parts of wood window, door, and frame members at locations where damage is too extensive to patch.

1. Remove sash from windows, doors from frames, and frames from walls before performing member-replacement repairs.
2. Verify that surfaces are sufficiently clean and free of paint residue before repair.
3. Remove broken, rotted, and decayed wood down to sound wood.
4. Custom fabricate new wood to replace missing wood; either replace entire wood member or splice new wood part into existing member.
5. Secure new wood using finger joints or mortise joint, multiple dowels, or splines with adhesive and nailing to ensure maximum structural integrity at each splice. Use only concealed fasteners. Fill nail holes and patch surface to match surrounding sound wood.

B. Apply borate preservative treatment to accessible surfaces after replacements are made. Apply treatment liberally by brush to joints, edges, and ends; top, sides, and bottom.

C. Repair remaining depressions, holes, or similar voids with patch-type repairs.

D. Clean spilled materials from adjacent surfaces immediately.

E. Glazing: replace glazing before reinstallation.

F. Finishing: fully prime entire unit subject to patch and/or replacement repairs. Provide two top coats of paint according to Section 090190.52 "Maintenance Repainting" unless otherwise indicated.

G. Reinstall units removed for repair into original openings.

3.5 ADJUSTING

A. Following reinstallation, test existing hardware for a secure fit at each opening. Windows and doors should not be subject to accidental operation. Adjust windows and doors for a tight fit at contact points and apply weather stripping for smooth operation and airtight closure. Lubricate hardware and moving parts.

3.6 WINDOW AND DOOR HARDWARE

A. Replace hardware in kind where hardware no longer functions as intended.

B. Replace missing hardware with hardware of the same function as that which is missing.

C. Use heavy-duty hardware systems with a finish and patina to match other hardware serving the opening.

3.7 CLEANING AND PROTECTION

A. Protect window and door surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances contact window and door surfaces, remove contaminants immediately.

B. Clean exposed surfaces immediately after repairing wood window and doors. Avoid damage to coatings and finishes. Remove excess sealants, glazing and patching materials, dirt, and other substances.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction.

3.8 SEQUENCING AND SCHEDULING

A. Perform window and door repairs in the sequence outlined, which includes work specified in this and other Sections. In the case that this sequencing is inapplicable, provide sequencing and scheduling modifications in writing.

1. Stabilize windows and doors on exterior and interior sides using sheathing, packing, and strapping materials, or other materials appropriate for the removal of intact units.
2. Remove each window and door carefully to retain integrity of existing features.
3. Apply rough wood framing around sheathing and packing to prepare each for transportation.
4. Label each opening with semi-permanent opening-identification number in inconspicuous location.
5. Tag each packed window and door with corresponding identification numbers and remove for repairs, restoration, and refinishing. Indicate on tags the locations on window of each component, such as "top sash," "bottom rail," etc.
6. Install temporary weather-tight protection to adjacent finishes at window and door openings.
7. Clean surfaces.
8. General Wood-Repair Sequence:

    a. Remove paint to bare wood.
    b. Inject adhesive into mortise and tenon joints; square frames to proper fit before adhesive sets.
    c. Repair wood by consolidation and patching.
    d. Restore millwork features to match existing features in window and door frames, rails, panels, sashes, mullions, and muntins, and wherever else such features are visible upon reinstallation.
    e. Sand, prime, fill, sand again, and prime surfaces again for refinishing.

9. Apply finish coats.
10. Remove temporary weather-tight protection at window openings.
11. Insulate gaps between each existing or replaced window or door frame and wall framing.
12. Install flashings at each opening to receive restored wood window and/or door.
13. Install restored and refinished wood window and door into each original location.
14. Caulk interior and exterior perimeter.

END OF SECTION 080152.62

SECTION 081423 - CLAD WOOD DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Out-swing/In-swing entry doors.

B. Related Requirements:
   1. Section 087100 “Door Hardware”

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product, including the following:

   1. Door core materials and construction.
   2. Door edge construction
   3. Door face type and characteristics.
   4. Door trim for openings.
   5. Door frame construction.
   6. Factory-machining criteria.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each type of door; construction details not covered in Product Data; and the following:

   1. Door schedule indicating door location, type, size, fire protection rating, and swing.
   2. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
   3. Details of frame for each frame type, including dimensions and profile.
   4. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
   5. Dimensions and locations of blocking for hardware attachment.
   6. Dimensions and locations of mortises and holes for hardware.
   7. Clearances and undercuts.
   8. Doors to be factory finished and application requirements.

C. Samples for Initial Selection: Submit full-size or partial full-size sample of door illustrating glazing system, quality of construction, and color of finish.

D. Samples for Verification:

1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches, for each material and finish. For each wood species and transparent finish, provide set of three Samples showing typical range of color and grain to be expected in finished Work.
2. Polymer edging, in manufacturer's standard colors.
3. Corner sections of doors, approximately 8 by 10 inches, with door faces and edges representing actual materials to be used.
4. Frames for light openings, 6 inches long, for each material, type, and finish required.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For door inspector.
1. Egress Door Inspector: Submit documentation of compliance with NFPA 101, Section 7.2.1.15.4.
2. Submit copy of DHI's Fire and Egress Door Assembly Inspector (FDAI) certificate.

B. Field quality-control reports.

C. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Special warranties.

1.6 QUALITY ASSURANCE

A. Egress Door Inspector Qualifications: Inspector for field quality-control inspections of egress door assemblies shall comply with qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of referenced standard and manufacturer's written instructions.

B. Package doors individually in plastic bags or cardboard cartons.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and HVAC system is operating and maintaining temperature and relative humidity at levels designed for building occupants for the remainder of construction period.

B. Environmental Limitations: Do not deliver or install doors until building is enclosed and weathertight, wet work is complete, and HVAC system is operating and maintaining temperature

between 60 and 90 deg F and relative humidity between 25 and 55 during remainder of construction period.

1.9 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace doors and frames that fail in materials or workmanship within specified warranty period.

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

a. Delamination of veneer.
b. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
c. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.

2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors and frames.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain clad wood doors from single manufacturer.

2.2 FIBERGLASS ENTRY DOORS

A. Exterior Doors:

1. Marvin Windows and Doors (Basis of Design)
2. Pella Windows and Doors
3. Or approved equal.

B. Factory-assembled doors with outward-swing and inward-swing door panels installed in frames.

C. Frames:

1. Exterior surfaces are a multi-part composite material at the head and jambs.

2. Interior surfaces are composite factory stained finish to match interior finish.

3. Sills: Extruded thermally broken aluminum with uPVC threshold.

a. Mill Finish
b. ADA Approved sills

D. Door Panels:

2. Fiberglass Door Panels:
   a. 0.075-inch minimum fiberglass skin on exterior and interior surfaces with CFC-free injected foam insulating core.
   b. Rails and Stiles: Wood top rails and stiles and wood plastic composite bottom rails secured with structural adhesive between skins at perimeter.
   c. Fiberglass Grain: Mahogany
   d. Lock Block: 12-inches or greater, solid wood.
   e. Panel Thickness: 1-3/4 inches (44 mm).

4. Door Closer and Panic Hardware Reinforcement: Solid reinforcement positioned to support surface-mounted closer and panic hardware

2.3 GLAZING

A. Glazing
   1. Tempered Glass: ASTM C 1036.
   2. Type:
      a. Tempered Insulating Glass: Clear multi-layer Low-E coated with argon, dual-seal insulating glass, installed into high-performance glazing frames.

B. Simulated Divided Lites
   1. Profile: 1-1/8-inch contour
   2. Expanded PVC permanently bonded to interior and exterior of the glass.
   3. Pattern: Match drawings.
   4. Finish: Factory pre-finished; color to be selected by Architect.

2.4 FABRICATION

A. Factory fit doors to suit frame-opening sizes indicated.

   1. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.

B. Openings: Factory cut and trim openings through doors.

   1. Light Openings: Trim openings with moldings of material and profile indicated.
      Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Section 088000 "Glazing."

2.5 FACTORY FINISHING

A. Comply with referenced quality standard for factory finishing.

   1. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
   2. Finish faces, all four edges, edges of cutouts, and mortises.

B. Door Frame Exterior Finish System:
   1. Exterior surfaces are finished with composite multi-step baked-on finish.
   2. Color: Matches panel color

C. Door Panel Exterior Finish:
   1. Fiberglass Door Panels: Factory pre-finished stain; color to be selected by Architect.

D. Door Frame Interior Finish: Factory pre-finished stain; color to be selected by Architect.

E. Door Panel Interior Finish:
   1. Fiberglass Door Panels: Factory pre-finished stain; color to be selected by Architect.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and installed door frames, with Installer present, before hanging doors.

   1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
   2. Reject doors with defects.

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

3.2 INSTALLATION

A. Hardware: For installation, see Section 087100 "Door Hardware."

B. Install doors and frames to comply with manufacturer's written instructions and referenced quality standard, and as indicated.

C. Install frames level, plumb, true, and straight.

   1. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
   2. Anchor frames to anchors or blocking built in or directly attached to substrates.

      a. Secure with countersunk, concealed fasteners and blind nailing.
      b. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork.

         1) For factory-finished items, use filler matching finish of items being installed.

D. Integrate door system installation with exterior weather-resistant barrier using flashing/sealant tape. Apply and integrate flashing/sealant tape with weather-resistant barrier using watershed principles in accordance with door manufacturer's instructions.

E. Place interior seal around door perimeter to maintain continuity of building thermal and air barrier using backer rod and sealant.

F. Seal door to exterior wall cladding with sealant and related backing materials at perimeter of assembly

3.3 FIELD QUALITY CONTROL

A. Inspection Agency: Engage a qualified inspector to perform inspections and to furnish reports to Architect.

B. Inspections:
1. Egress Door Inspections: Inspect each door equipped with panic hardware, each door equipped with fire exit hardware, each door located in an exit enclosure, each electrically controlled egress door, and each door equipped with special locking arrangements in accordance with NFPA 101, Section 7.2.1.15.

C. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

D. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

3.4 ADJUSTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 085113 - ALUMINUM WINDOWS

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 aluminum windows for exterior locations.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for aluminum windows.

B. Shop Drawings: For aluminum windows.

1. Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.

C. Samples: For each exposed product and for each color specified, 2 by 4 inches in size.

D. Samples for Initial Selection: For units with factory-applied finishes.

1. Include Samples of hardware and accessories involving color selection.

E. Samples for Verification: For aluminum windows and components required, showing full range of color variations for finishes, and prepared on Samples of size indicated below:

1. Exposed Finishes: 2 by 4 inches.
2. Exposed Hardware: Full-size units.

F. Product Schedule: For aluminum windows. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer and Installer.

B. Product Test Reports: For each type of aluminum window, for tests performed by a qualified testing agency.

C. Field quality-control reports.

D. Sample Warranties: For manufacturer's warranties.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A manufacturer capable of fabricating aluminum windows that meet or exceed performance requirements indicated and of documenting this performance by test reports and calculations.

B. Installer Qualifications: An installer acceptable to aluminum window manufacturer for installation of units required for this Project.

1.6 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace aluminum windows that fail in materials or workmanship within specified warranty period.

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

a. Failure to meet performance requirements.
b. Structural failures including excessive deflection, water leakage, condensation, and air infiltration.
c. Faulty operation of movable sash and hardware.
d. Deterioration of materials and finishes beyond normal weathering.
e. Failure of insulating glass.

2. Warranty Period:

a. Window: 10 years from date of Substantial Completion.
b. Glazing Units: 10 years from date of Substantial Completion.
c. Aluminum Finish: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain aluminum windows from single source from single manufacturer.

2.2 WINDOW PERFORMANCE REQUIREMENTS

A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.

1. Window Certification: AAMA certified with label attached to each window.

B. Performance Class and Grade: AAMA/WDMA/CSA 101/I.S.2/A440 as follows:

1. Minimum Performance Class: LC.
2. Minimum Performance Grade: 25.

C. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.30 Btu/sq. ft. x h x deg F .

D. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.38.

E. Condensation-Resistance Factor (CRF): Provide aluminum windows tested for thermal performance according to AAMA 1503, showing a CRF of 60.

F. Thermal Movements: Provide aluminum windows, including anchorage, that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change: 120 deg F ambient; 180 deg F material surfaces.

G. Sound Transmission Class (STC): Rated for not less than 26 STC when tested for laboratory sound transmission loss according to ASTM E90 and determined by ASTM E413.

H. Outside-Inside Transmission Class (OITC): Rated for not less than 26 OITC when tested for laboratory sound transmission loss according to ASTM E90 and determined by ASTM E1332.

I. Windborne-Debris Impact Resistance: Passes ASTM E1886 missile-impact and cyclic-pressure tests in accordance with ASTM E1996 for Wind Zone 3 for basic protection.

2.3 ALUMINUM WINDOWS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Winco Window Company, Inc. – Series 1450S (Basis of Design)
2. Or approved equal.

B. Types: Provide the following types in locations indicated on Drawings:
1. Fixed.

C. Frames and Sashes: Aluminum extrusions complying with AAMA/WDMA/CSA 101/I.S.2/A440.

1. Thermally Improved Construction: Fabricate frames, sashes, and muntins with an integral, concealed, low-conductance thermal barrier located between exterior materials and window members exposed on interior side in a manner that eliminates direct metal-to-metal contact.

D. Insulating-Glass Units: ASTM E2190.

1. Glass: ASTM C1036, Type 1, Class 1, q3.

    a. Tint: Clear.
    b. Kind: Fully tempered .

2. Lites: Two.
3. Filling: Fill space between glass lites with argon.
4. Low-E Coating: on third surface .

E. Glazing System: Manufacturer's standard factory-glazing system that produces weathertight seal.

F. Hardware, General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material compatible with adjacent materials; designed to smoothly operate, tightly close, and securely lock windows, and sized to accommodate sash weight and dimensions.

1. Exposed Hardware Color and Finish: As selected by Architect from manufacturer's full range.

G. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.

H. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.

1. Exposed Fasteners: Do not use exposed fasteners to greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

2.4 ACCESSORIES

A. Dividers (False Muntins): Provide extruded-aluminum divider grilles in designs indicated for each sash lite.

1. Type: Permanently located at exterior lite.
2. Pattern: As indicated on Drawings.
3. Profile: As selected by Architect from manufacturer's full range.

B. Subsills: Thermally broken, extruded-aluminum subsills in configurations indicated on Drawings.

C. Column Covers: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.

D. Interior Trim: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.

E. Panning Trim: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.

F. Receptor System: Two-piece, snap-together, thermally broken, extruded-aluminum receptor system that anchors windows in place.

2.5 FABRICATION

A. Fabricate aluminum windows in sizes indicated. Include a complete system for assembling components and anchoring windows.

B. Glaze aluminum windows in the factory.

C. Weather strip each operable sash to provide weathertight installation.

D. Weep Holes: Provide weep holes and internal passages to conduct infiltrating water to exterior.

E. Provide water-shed members above side-hinged sashes and similar lines of natural water penetration.

F. Mullions: Provide mullions and cover plates, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections. Provide mullions and cover plates capable of withstanding design wind loads of window units.

G. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation.

2.6 GENERAL FINISH REQUIREMENTS

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

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

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.7 ALUMINUM FINISHES

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

B. High-Performance Organic Finish (Two-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coating; Organic Coating: manufacturer's standard two-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply AAMA 2605 and with coating and resin manufacturers' written instructions.

1. Color and Gloss: As selected by Architect from full range of industry colors and color densities.

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 the Work.

B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.

C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.

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

3.2 INSTALLATION

A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E2112.

B. Install windows 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 to produce weathertight construction.

C. Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.

D. 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. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.

B. Testing Services: Testing and inspecting of installed windows shall take place as follows:

1. Testing Methodology: Testing of windows for air infiltration and water resistance shall be performed according to AAMA 502.
2. Air-Infiltration Testing:

a. Test Pressure: That required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance class indicated.
b. Allowable Air-Leakage Rate: 1.5 times the applicable AAMA/WDMA/CSA 101/I.S.2/A440 rate for product type and performance class rounded down to one decimal place.

3. Water-Resistance Testing:

a. Test Pressure: Two-thirds times test pressure required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance grade indicated.
b. Allowable Water Infiltration: No water penetration.

4. Testing Extent: Three windows of each type as selected by Architect and a qualified independent testing and inspecting agency. Windows shall be tested after perimeter sealants have cured.
5. Test Reports: Prepared according to AAMA 502.

C. Windows will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

3.4 ADJUSTING, CLEANING, AND PROTECTION

A. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.

B. Clean exposed surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

1. Keep protective films and coverings in place until final cleaning.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

D. Protect window surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

END OF SECTION 085113

SECTION 085200 - WOOD WINDOWS

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 aluminum-clad and fiberglass-clad wood windows.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review, discuss, and coordinate the interrelationship of wood windows with other exterior wall components. Include provisions for anchoring, flashing, weeping, sealing perimeters, and protecting finishes.
3. Review and discuss the sequence of work required to construct a watertight and weathertight exterior building envelope.
4. Inspect and discuss the condition of substrate and other preparatory work performed by other trades.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for wood windows.

B. Shop Drawings: For wood windows.

1. Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.

C. Samples: For each exposed product and for each color specified, 2 by 4 inches in size.

D. Samples for Initial Selection: For units with factory-applied finishes.

1. Include Samples of hardware and accessories involving color selection.

E. Samples for Verification: For wood windows and components required, prepared on Samples of size indicated below:

1. Exposed Finishes: 2 by 4 inches.
2. Exposed Hardware: Full-size units.

F. Product Schedule: For wood windows. Use same designations indicated on Drawings.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For each type of wood window, for tests performed by a qualified testing agency.

C. Field quality-control reports.

D. Sample Warranties: For manufacturer's warranties.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An installer acceptable to wood window manufacturer for installation of units required for this Project.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Build mockup of typical double-hung window jamb, head and sill construction.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace wood windows that fail in materials or workmanship within specified warranty period.

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

a. Failure to meet performance requirements.
b. Structural failures including excessive deflection, water leakage, and air infiltration.
c. Faulty operation of movable sash and hardware.
d. Deterioration of materials and finishes beyond normal weathering.
e. Failure of insulating glass.

2. Warranty Period:

   a. Window: 10 years from date of Substantial Completion.
   b. Glazing Units: 20 years from date of Substantial Completion.
   c. Aluminum-Cladding Finish: 20 years from date of Substantial Completion.
   d. Fiberglass Cladding: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain wood windows from single source from single manufacturer.

2.2 WINDOW PERFORMANCE REQUIREMENTS

A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.

   1. Window Certification: WDMA certified with label attached to each window.

B. Performance Class and Grade: AAMA/WDMA/CSA 101/I.S.2/A440 as follows:

   1. Minimum Performance Class: LC**.**
   2. Minimum Performance Grade: 25.

C. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.30 Btu/sq. ft. x h x deg F .

D. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.38 .

E. Outside-Inside Transmission Class (OITC): Rated for not less than 26 OITC when tested for laboratory sound transmission loss according to ASTM E90 and determined by ASTM E1332.

F. Windborne-Debris Impact Resistance: Passes ASTM E1886 missile-impact and cyclic-pressure tests in accordance with ASTM E1996 for Wind Zone 3 for basic protection.

2.3 WOOD WINDOWS

A. Aluminum-Clad Wood Windows:

   1. Manufacturers: Subject to compliance with requirements, provide products by the following:

      a. Marvin – Ultimate Series (Basis of Design)
      b. Or approved equal.

B. Fiberglass-Clad Wood Windows:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

   a. Marvin – Essential Series (Basis of Design)
   b. Or approved equal.

C. Operating Types: Provide the following operating types in locations indicated on Drawings:

1. Casement: Project out.
2. Single hung.
3. Double hung.
4. Fixed.

D. Frames and Sashes: Fine-grained wood lumber complying with AAMA/WDMA/CSA 101/I.S.2/A440; kiln dried to a moisture content of not more than 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch deep by 2 inches wide; water-repellent preservative treated.

1. Exterior Finish: Aluminum-clad wood.

   a. Aluminum Finish: Manufacturer's standard fluoropolymer two-coat system with fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight and complying with AAMA 2605.
   b. Color: As selected by Architect from manufacturer's full range.

2. Interior Finish: Manufacturer's standard color-coated finish .
   a. Color: As selected by Architect from manufacturer's full range.

E. Insulating-Glass Units: ASTM E2190.

1. Glass: ASTM C1036, Type 1, Class 1, q3.

   a. Tint: Clear.
   b. Kind: Fully tempered.

2. Lites: Two.
3. Filling: Fill space between glass lites with argon.
4. Low-E Coating: Sputtered on third surface .

F. Glazing System: Manufacturer's standard factory-glazing system that produces weathertight seal.

G. Hardware, General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material compatible with adjacent materials; designed to smoothly operate, tightly close, and securely lock windows, and sized to accommodate sash weight and dimensions.

1. Exposed Hardware Color and Finish: As selected by Architect from manufacturer's full range .

H. Casement Window Operating Hardware:

1. Gear-Type Rotary Operators: Complying with AAMA 901 when tested according to ASTM E405, Method A. Provide operators that function without requiring the removal of interior screens or using screen wickets.

    a. Type and Style: As selected by Architect from manufacturer's full range of types and styles.

2. Hinges: Manufacturer's standard type for sash weight and size indicated .
3. Single-Handle Locking System: Operates positive-acting arms that pull sash into locked position. Provide one arm on sashes up to 29 inches tall and two arms on taller sashes.

4. Operator Stud Cover: Matching operator handle finish. Provide in locations where operator handle is removed for controlled access.

I. Hung Window Hardware:

1. Counterbalancing Mechanism: Complying with AAMA 902, concealed, of size and capacity to hold sash stationary at any open position.
2. Locks and Latches: Allow unobstructed movement of the sash across adjacent sash in direction indicated and operated from the inside only.
3. Tilt Hardware: Releasing tilt latch allows sash to pivot about horizontal axis to facilitate cleaning exterior surfaces from the interior.

J. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.

K. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.

1. Exposed Fasteners: Do not use exposed fasteners to greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

2.4 ACCESSORIES AND TRIM

A. Dividers (False Muntins): Provide divider grilles in designs indicated for each sash lite.

1. Simulated Divided Lites (SDL): 5/8” (16mm) wide, 7/8” (22mm) wide. Adhered to glass with closed-cell copolymer acrylic foam tape.
2. Material:
    a. Exterior: 0.055” (1.4mm) thick extruded aluminum
    b. Interior: Pine
3. Pattern: As indicated on Drawings.
4. Profile: As selected by Architect from manufacturer's full range.
5. Color: As selected by Architect from manufacturer's full range.

B. Aluminum Extrusions:
   1. Profile: Factory Applied Flat Casing. MUST BE FACTORY APPLIED, FIELD FIT AND APPLIED CASINGS WILL BE REJECTED
   2. Finish: Fluoropolymer modified acrylic topcoat applied over primer. Meets or exceeds AAMA 2605 requirements.
   3. Exterior aluminum clad color: Matching color and finish of cladding

2.5 FABRICATION

A. Fabricate wood windows in sizes indicated. Include a complete system for installing and anchoring windows.

B. Glaze wood windows in the factory.

C. Weather strip each operable sash to provide weathertight installation.

D. Mullions: Provide mullions and cover plates, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections. Provide mullions and cover plates capable of withstanding design wind loads of window units.

E. Bow and Bay Window Assemblies: Provide operating and fixed units in configuration indicated. Provide window frames, sashes, hardware, and other trim and components necessary for a complete, secure, and weathertight installation, including the following:

   1. Angled mullion posts with interior and exterior trim.
   2. Angled interior and exterior extension and trim.
   3. Clear pine head and seat boards.
   4. Top and bottom plywood platforms.
   5. Exterior head and sill casings and trim.
   6. Support brackets.

F. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation. Allow for scribing, trimming, and fitting at Project site.

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 the Work.

B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.

C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.

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

3.2 INSTALLATION

A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E2112.

B. Install windows level, plumb, square, true to line, without distortion, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.

B. Testing Services: Testing and inspecting of installed windows shall take place as follows:

1. Testing Methodology: Testing of windows for air infiltration and water resistance shall be performed according to AAMA 502.
2. Air-Infiltration Testing:

    a. Test Pressure: That required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance class indicated.
    b. Allowable Air-Leakage Rate: 1.5 times the applicable AAMA/WDMA/CSA 101/I.S.2/A440 rate for product type and performance class rounded down to one decimal place.

3. Water-Resistance Testing:

    a. Test Pressure: Two-thirds times test pressure required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance grade indicated.
    b. Allowable Water Infiltration: No water penetration.

4. Testing Extent: Three windows of each type as selected by Architect and a qualified independent testing and inspecting agency. Windows shall be tested after perimeter sealants have cured.
5. Test Reports: Prepared according to AAMA 502.

C. Windows will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

3.4 ADJUSTING, CLEANING, AND PROTECTION

A. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.

B. Clean exposed surfaces immediately after installing windows. Remove excess sealants, glazing materials, dirt, and other substances.

1. Keep protective films and coverings in place until final cleaning.

C. Remove and replace sashes if glass has been broken, chipped, cracked, abraded, or damaged during construction period.

D. Protect window surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

END OF SECTION 085200

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes commercial door hardware for the following:

1. Swinging doors.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Cylinders specified for doors in other sections.

C. Related Sections:

1. Section 081423 Clad Wood Doors
2. Section 087101 Door Hardware Schedule

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

1. ANSI/BHMA Certified Product Standards - A156 Series.
2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.
5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

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

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
3. Content: Include the following information:

    a. Type, style, function, size, label, hand, and finish of each door hardware item.
    b. Manufacturer of each item.
    c. Fastenings and other pertinent information.
    d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    e. Explanation of abbreviations, symbols, and codes contained in schedule.
    f. Mounting locations for door hardware.
    g. Door and frame sizes and materials.
    h. Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

D. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

1.4 CLOSEOUT SUBMITTALS

A. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

B. Project Record Documents: Provide record documentation of as-built door hardware sets in digital format (.pdf, .docx, .xlsx, .csv) and as required in Division 01, Project Record Documents.

1.5 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.

F. Each unit to bear third party permanent label indicating compliance with the referenced testing standards.

G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.

4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

I. At completion of installation, provide written documentation that components were applied according to manufacturer's instructions and recommendations and according to approved schedule.

1.6 DELIVERY, STORAGE AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.7 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.8 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:

1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 BUTT HINGES

A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:

a. Two Hinges: For doors with heights up to 60 inches.

b. Three Hinges: For doors with heights 61 to 90 inches.
c. Four Hinges: For doors with heights 91 to 120 inches.
d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

a. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
b. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:

a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

5. Basis of Design:

a. McKinney (MK) - TA/T4A Series, 5-knuckle.
b. Or Approved Equal.

2.3 DOOR OPERATING TRIM

A. Door Push Plates and Pulls: ANSI/BHMA A156.6 door pushes and pull units of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Pulls, where applicable, shall be provided with a 10” clearance from the finished floor on the push side to accommodate wheelchair accessibility.
5. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets. When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.
6. Basis of Design:

a. Rockwood (RO).
b. Or Approved Equal.

2.4 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

1. Basis of Design:

a. ASSA ABLOY ACCENTRA, formerly known as Yale (YA).
b. Or Approved Equal.

B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:

1. Threaded mortise cylinders with rings and cams to suit hardware application.
2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
4. Tubular deadlocks and other auxiliary locks.
5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
6. Keyway: Manufacturer’s Standard.

C. Small Format Interchangeable Cores: Provide small format interchangeable cores (SFIC) as specified, core insert, removable by use of a special key; usable with other manufacturers' cylinders.

D. Keying System: Each type of lock and cylinders to be factory keyed.

1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. New System: Key locks to a new key system as directed by the Owner.

E. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Control Keys (where required): Two (2).
4. Permanent Control Keys (where required): Two (2).

F. Construction Keying: Provide temporary keyed construction cores.

G. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.5 MORTISE LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): Provide ANSI/BHMA A156.13, Series 1000, Operational and Security Grade 1 Certified Products Directory (CPD) listed mortise locksets. Listed manufacturers shall meet all functions and features as specified herein.

1. Provide locksets with functions and features as follows:

   a. Heavy duty 12-gauge wrought steel case.
   b. Stainless steel 3/4" one-piece anti-friction reversible latchbolt with a one-piece hardened stainless steel 1” projection deadbolt.
   c. Where required by code, provide knurling or abrasive coating on all levers leading to hazardous areas.
   d. Meets UL and CUL Standard 10C Positive Pressure, Fire Test of Door Assemblies with levers that meet A117.1 Accessibility Code.
   e. Meets UL Certification Directory ZHLL.R21744 for products used in windstorm rated assemblies.
   f. Status indicators inside, outside, or on both sides of doors as specified; available with wording for “locked/unlocked”, “vacant/occupied” or custom wording options. Indicator to be located above the cylinder with the inside thumb-turn not blocking the visibility of the indicator status.
   g. Ten-year limited warranty for mechanical functions.

2. Basis of Design:

   a. ASSA ABLOY ACCENTRA, formerly known as Yale (YA) - 8800FL Series.
   b. Or Approved Equal.

2.6 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.

2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.7 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. Exit devices shall have a five-year warranty.
2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer’s catalog and template book for specific requirements.
4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
6. Flush End Caps: Provide flush end caps made of architectural metal in the same finish as the devices as in the Hardware Sets. Plastic end caps will not be acceptable.
7. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.

    a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
    b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.

8. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
9. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2” wide stiles.
10. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
11. Rail Sizing: Provide exit device rails factory sized for proper door width application.
12. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed exit devices. Listed manufacturers shall meet all functions and features as specified herein.

1. Basis of Design:

a. ASSA ABLOY ACCENTRA, formerly known as Yale (YA) - 7000 Series.
b. Or Approved Equal.

2.8 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Heavy duty surface mounted door closers shall have a 30-year warranty.

2. Basis of Design:

a. ASSA ABLOY ACCENTRA, formerly known as Yale (YA) - 4400 Series.
b. Or Approved Equal.

C. Door Closers, Surface Mounted (Unitrol): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted closers with door stop mechanism to absorb dead stop shock on arm and top hinge. Hold-open arms to have a spring loaded mechanism in addition to shock absorber assembly. Arms to be provided with rigid steel main arm and secondary arm lengths proportional to the door width.

1. Basis of Design:

a. ASSA ABLOY ACCENTRA, formerly known as Yale (YA) - Unitrol Series.
b. Or Approved Equal.

2.9 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Basis of Design:

    a. Rockwood (RO).
    b. Or Approved Equal.

2.10 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NFPA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Basis of Design:

1. Pemko (PE).
2. Or Approved Equal.

2.11 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.12 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Push Plates and Door Pulls: When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.

E. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

F. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

A. Field Inspection (Punch Report): Reference Division 01 Sections “Closeout Procedures”. Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.
2. The supplier is responsible for handing and sizing all products.
3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Refer to Section 087101, Door Hardware Sets, for hardware sets.

END OF SECTION 087100

SECTION 080671 – DOOR HARDWARE SCHEDULE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section references specification sections relating to commercial door hardware for the following:

1. Swinging doors.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Cylinders specified for doors in other sections.

C. Related Sections:

1. Section 087100 Door Hardware.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. State Building Codes, Local Amendments.

E. Standards: Reference Related Sections for requirements regarding compliance with applicable industry standards.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

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

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.

3. Content: Include the following information:

   a. Type, style, function, size, label, hand, and finish of each door hardware item.
   b. Manufacturer of each item.
   c. Fastenings and other pertinent information.
   d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
   e. Explanation of abbreviations, symbols, and codes contained in schedule.
   f. Mounting locations for door hardware.
   g. Door and frame sizes and materials.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Keying Schedule: Prepared under the supervision of the Owner, separate schedule detailing final keying instructions for locksets and cylinders in writing. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner to approve submitted keying schedule prior to the ordering of permanent cylinders.

D. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the hardware and their nearest service representatives. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance.

F. Warranties and Maintenance: Special warranties and maintenance agreements specified in the Related Sections.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.5 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

1.6 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. Refer to “PART 3 – EXECUTION” for required specification sections.

PART 3 - EXECUTION

3.1 DOOR HARDWARE SETS

A. The door hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.

2. The supplier is responsible for handing and sizing all products.

3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Products listed in the hardware sets shall be supplied by and in accordance with the requirements described in the specification section as noted for each item.

1. Section 08 71 00 – Door Hardware.

C. Manufacturer's Abbreviations:

1. MK - McKinney
2. YA - ASSA ABLOY ACCENTRA
3. RO - Rockwood
4. PE - Pemko

Hardware Sets

Set: 1.0

Doors: 104A

3	Hinge, Full Mortise, Hvy Wt	T4A3386 [NRP] FT (Size and Qty as Required)	US10B	MK
1	Rim Exit Device, Nightlatch	7105 121NL Temp Core	613E	YA
2	Core	As Required	606	YA
1	Pull	RM5270 (Size and Mtg-Type as Required)	10BE	RO
1	Surface Closer	PR4400	613E	YA
1	Door Stop	467-RKW EXP	Black	RO
1	Gasketing	290DPK x 2891DPK (Head & Jambs)		PE
1	Rain Guard	346D (Omit at overhangs)		PE
1	Sweep	3452DNB x Length Required		PE
1	Threshold	273x224DFGT x Length Required		PE

Notes: Coordinate seals with door/frame assembly.

Set: 2.0

Doors: 001, 100, 101

3	Hinge, Full Mortise, Hvy Wt	T4A3386 [NRP] FT (Size and Qty as Required)	US10B	MK
1	Rim Exit Device, Nightlatch	7105 121NL Temp Core	613E	YA
2	Core	As Required	606	YA
1	Pull	RM5270 (Size and Mtg-Type as Required)	10BE	RO
1	Surface Closer	UNI4400	613E	YA
1	Gasketing	290DPK x 2891DPK (Head & Jambs)		PE
1	Rain Guard	346D (Omit at overhangs)		PE
1	Sweep	3452DNB x Length Required		PE
1	Threshold	273x224DFGT x Length Required		PE

Notes: Coordinate seals with door/frame assembly.
Survey existing doors and frames to verify compatibility of hardware as specified. Provide filler plates and custom strike plates as required.

Set: 3.0

Doors: 104B, 201

3	Hinge, Full Mortise, Hvy Wt	T4A3386 [NRP] FT (Size and Qty as Required)	US10B	MK
1	Storeroom or Closet Lock	UBR3 8805RL Temp Core	613E	YA
1	Core	As Required	606	YA
1	Surface Closer	4400	613E	YA
1	Door Stop	467-RKW EXP	Black	RO
1	Gasketing	290DPK x 2891DPK (Head & Jambs)		PE
1	Rain Guard	346D (Omit at overhangs)		PE
1	Sweep	3452DNB x Length Required		PE
1	Threshold	273x224DFGT x Length Required		PE

Notes: Coordinate seals with door/frame assembly.

END OF SECTION 080671