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# WINDOW REPLACEMENT AND RELATED WORK AT ADMINISTRATION BUILDING

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**HOPEWELL VALLEY REGIONAL SCHOOL DISTRICT**  
PENNINGTON - MERCER COUNTY - NEW JERSEY



**FVHD PROJECT #5295 / NJDOE# 2280-X01-21-1000**

**February 3, 2021**

**SPECIFICATIONS**

for

**WINDOW REPLACEMENT AND RELATED WORK  
AT ADMINISTRATION BUILDING**

425 S. Main Street, Pennington, NJ 08534

for the

**HOPEWELL VALLEY REGIONAL SCHOOL DISTRICT**

Pennington, Mercer County, New Jersey

**FVHD PROJECT #5295 / NJDOE# 2280-X01-21-1000**

**FRAYTAK VEISZ HOPKINS DUTHIE, P.C.**

**Architects – Planners**

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**TABLE OF CONTENTS**

<b><u>Section</u></b>	<b><u>Title</u></b>	<b><u>Pages</u></b>
	Advertisement for Bid.....	1 to 2
	<b>BIDDING INFORMATION</b>	
00100	Instructions to Bidders .....	1 to 13
	Bidder's Checklist .....	1 to 2
	Bid Bond .....	1
	Proposition of Surety .....	1
	Subcontractor Identification Statement .....	1
	Ownership Disclosure Certification .....	1 to 4
	Performance Record Certification.....	1 to 3
	Compliance with New Jersey Prevailing Wage Act.....	1 to 2
	Non Collusion Affidavit .....	1
	Certification of No Material Change of Circumstances .....	1
	Status of Present Contracts .....	1
	Political Contribution Disclosure .....	1 to 2
	Disclosure of Investment Activities in Iran .....	1
	Americans with Disabilities Act of 1990.....	1
	Equipment Certification .....	1
	Sworn Contractor Certification; Qualifications and Credentials .....	1
	Certification of Insurance Statement.....	1
	Exhibit B - Mandatory Equal Employment Opportunity Language.....	1 to 3
	Certification of Non-Debarment for Federal Government Contracts .....	1 to 4
	Sample Surety Disclosure Statement and Certification.....	1 to 2
	Performance Bond .....	1
	Payment Bond.....	1
	Maintenance Bond.....	1
	Form AA-201 Initial Project Workforce Report Construction.....	1
	Form AA-202 Monthly Project Workforce Report Construction .....	1
	AIA Document A101 - 2017, Standard Form of Agreement Between Owner and Contractor.....	1 to 8
	AIA Document A101 - 2017, Exhibit A Insurance and Bonds .....	1 to 7
	<b>CONTRACT CONDITIONS AND GENERAL REQUIREMENTS</b>	
00700	AIA Document A201 - 2017, General Conditions of the Contract for Construction .....	1 to 49
00800	Supplementary General Conditions .....	1 to 9
00850	Contract Drawings .....	1
00860	Laws Governing Public Work .....	1 to 10
00870	Miscellaneous Requirements.....	1 to 3
01010	Summary of Work.....	1 to 4
01020	Allowances .....	1 to 2
01030	Alternate Bids .....	1 to 2
01040	Coordination.....	1 to 5

**TABLE OF CONTENTS**

<b><u>Section</u></b>	<b><u>Title</u></b>	<b><u>Pages</u></b>
01050	Alterations, Cutting, Patching and Refinishing Work . . . . .	1 to 11
01151	Unit Prices . . . . .	1
01200	Project Meetings . . . . .	1 to 4
01400	Material Testing/Quality Control Services . . . . .	1 to 7
01410	References and Industry Standards . . . . .	1 to 3
01505	Temporary Facilities . . . . .	1 to 2
01524	Construction Waste Management . . . . .	1 to 5
01600	Product Requirements . . . . .	1 to 6
01700	Project Closeout Documents and Procedures . . . . .	1 to 12
	Sample Closeout Checklist . . . . .	1
01800	Time of Completion and Liquidated Damages . . . . .	1 to 4
01900	Guarantees and Warranties . . . . .	1 to 4

**PART 2 - GENERAL CONSTRUCTION**

02070	Selective Demolition . . . . .	1 to 5
02150	Shoring and Bracing . . . . .	1 to 2
04200	Unit Masonry . . . . .	1 to 11
04500	Masonry Restoration and Cleaning . . . . .	1 to 7
05400	Miscellaneous Structural Steel . . . . .	1 to 6
05500	Metal Fabrications . . . . .	1 to 9
06100	Carpentry . . . . .	1 to 4
06400	Architectural Woodwork . . . . .	1 to 4
06650	Solid Polymer Fabrications . . . . .	1 to 5
07070	Selective Roof Demolition . . . . .	1 to 3
07200	Building Insulation . . . . .	1 to 4
07500	Roofing, General . . . . .	1 to 5
07530	Repairs to Single Ply EPDM Roofing Membrane System . . . . .	1 to 8
04600	Flashing, Sheet Metal and Roof Accessories . . . . .	1 to 9
07900	Joint Sealer Assemblies . . . . .	1 to 7
08520	Aluminum Windows . . . . .	1 to 14
08800	Glass and Glazing . . . . .	1 to 7
08870	Security Window Film . . . . .	1 to 8
	3M Impact Protection Adhesive Attachment System Installation Instructions . . . . .	1 to 2
08871	Security Glazing (Alternate Bid) . . . . .	1 to 4
09250	Gypsum Drywall . . . . .	1 to 8
09900	Painting . . . . .	1 to 9

**END TABLE OF CONTENTS**

**BID ADVERTISEMENT**  
**Hopewell Valley Regional School District**  
**Mercer County, New Jersey**

NOTICE IS HEREBY GIVEN that the Hopewell Valley Regional Board of Education will receive bids for **Window Replacement and Related Work at the Hopewell Valley Regional School District Administration Building**, together with all work incidental thereto, in accordance with the requirements of the drawings and specifications prepared by Fraytak Veisz Hopkins Duthie, P.C. (FVHD), Architects-Planners, **FVHD Project #5295**.

Bids will be received for: Single Overall Contract (C008 or C009)

Sealed Bids are due by **Thursday, March 11, 2021, 2:00 PM**, to the Hopewell Valley Regional Board of Education; Attn: Robert Colavita, Business Administrator, 425 South Main Street, Pennington, NJ 08534. Any Bid received after that time shall be rejected. There will be a Virtual Bid Opening. Please use the following link to join the Zoom Meeting: [Window Bid Opening](#)

**Due to COVID-19 virus and New Jersey Executive Orders EO107 and LFN2020-10, Contractors are required to provide their own face masks/personal protection equipment, practice social distancing and hand washing at all times indoors/outdoors and assume all risks associated with their attendance at bid opening and meetings or District premises. Wearing a face mask is required at all times.**

Bid Documents for the proposed Work are on file at the office of the Architect, FVHD, 1515 Lower Ferry Road, Trenton, NJ 08618, and may be obtained by prospective bidders electronically via direct download (pdf format), electronic file on disc, or printed paper set. Information about the Project can be found on our website: [www.fvhdp.com](http://www.fvhdp.com) under CONTRACTOR, BID LISTING. To obtain bid documents, please download and fill out the "Bidder Registration Form," available at <https://fvhdpc.com/bids/bidlisting>, and fax or email the completed form to the Architect's Office. Downloadable Electronic Bid Documents are available without fee. Bid Documents by disk will be available for a non-refundable fee of \$25.00, or by paper set for a non-refundable fee of \$150.00 for each paper set. Checks for disks and paper sets are payable in advance to Fraytak Veisz Hopkins Duthie, P.C. If contractor requests shipping, a direct shipping account number must be provided to the Architect and for paper sets, a separate non-refundable handling fee of \$25 per set payable in advance. Bidders should only rely on original digital and paper versions of the bidding contract documents obtained directly from the Architect's office. Any bidder should contact the Architect's office at (609) 883-7101 to confirm availability of documents. To obtain bid documents, please download and fill out the "Bidder Registration Form," available at <https://fvhdpc.com/bids/bidlisting>, and fax or email the completed form to the Architect's Office. Upon receipt of the form, electronic bid documents will be made available for download with an emailed link that will have an expiration date. If disk or paper sets are requested, mail the required payment by check, to the Architect's Office. Upon receipt of payment, disk or paper sets will be shipped, or made available for pick-up. **All requests for information (RFI) must be submitted by 4:30 PM, Thurs., Feb. 25, 2021 and sent via facsimile at (609) 883-2694 or via common carrier to the Architect with the Architect Project Name and Project No. referenced. RFI request submitted to the Architect via E-mail will not be accepted or responded to.**

Bid Proposal shall be submitted in duplicate (one original and one copy) in a sealed envelope, addressed to the Owner, bearing the name and address of the bidder, and clearly marked "BID" with the contract title and/or bid number on the outside of the envelope and must be accompanied by a Certified Check, Cashier's Check or Bid Bond drawn to the order of the Owner in the amount of ten percent (10%) of the amount of the bid, but in no case in excess of \$20,000; and must be

delivered to the above place on or before the hour named. The Board of Education and the Architect assume no responsibility for bids mailed or misdirected in delivery.

If the bid exceeds \$20,000 bidder must be pre-qualified by the New Jersey Division of Property Management and Construction (DPMC), prior to the date that bids are received. Any bid submitted under the terms of New Jersey statutes not including a copy of a valid and active Pre-qualification/Classification Certificate shall be rejected as being non-responsive to bid requirements.

Pursuant to N.J.S.A. 18A:18A-25, each proposal shall be accompanied by a Proposition of Surety from a Surety Company stating it will provide each bidder with separate Performance and Payment Bonds, each in the amount of 100% of the contract sum. Also, Surety agrees to furnish bidder with a Maintenance Bond in required form. The Proposition of Surety shall be executed by an approved surety company authorized to do business in the State of New Jersey and in accordance with N.J.S.A. 2A:44-143, and 2A:44-144 and with the three highest rating categories of rating companies nationally recognized.

This project is subject to the New Jersey State Prevailing Wage Act, N.J.S.A. 34:11-56.27 et seq.

Pursuant to "The Public Works Contractor Registration Act", N.J.S.A. 34:11-56.48 et seq., bidders and their subcontractors are required to be registered with the New Jersey Department of Labor and Workforce Development and to possess a current certificate by said Department indicating compliance with the Act prior to the time and date that bids are received.

All bidders must comply with N.J.S.A. 10:5-31 et seq., N.J.A.C. 17:27 et seq. and N.J.S.A. 10:2-1. An Initial Project Workforce Report will be required from the successful bidder (Form AA-201).

No bid may be withdrawn for a period of sixty (60) days after the date set for the opening thereof. The right is reserved to reject all bids pursuant to N.J.S.A. 18A:18A-22 and to waive minor informalities in the bidding in accordance with applicable law.

By Order of the Hopewell Valley Regional Board of Education  
Robert W. Colavita, Business Administrator/Board Secretary

## **BIDDING INFORMATION**

### **SECTION 00100 - INSTRUCTIONS TO BIDDERS**

#### **1.1 INVITATION TO BID**

- A. All Bidders are required to prepare bids in accordance with all plans and specifications (Bid Documents) prepared by Fraytak Veisz Hopkins Duthie, P.C.
- B. **DISCLAIMER:** Bidders should only rely on original digital and paper versions of the bidding contract documents obtained directly from the Architect's office. Fraytak Veisz Hopkins Duthie, PC (FVHD) Architects-Planners is not responsible for any unauthorized copies made of the digital or paper bidding contract documents obtained from sources other than the Architect's office. All information provided by Fraytak Veisz Hopkins Duthie, PC (FVHD) Architects-Planners is intellectual property and is protected under copyright laws. It is not to be used for any purpose other than for the indicated project. Any other use or manipulation of the information is strictly prohibited.
- C. Bids for Contracts as listed in the Advertisement for Bids or Invitation to Bid as hereinafter described, will be received for the performance of the Project. The bids shall cover all cost of any nature, incident to and growing out of the work. In explanation but not in limitation thereof, these costs shall include the cost of all work, labor, materials, equipment, transportation and cost of all else necessary to perform and complete the Project in the manner and within the time required, all incidental expenses in connection therewith, all costs on account of loss by damage or destruction of the Project caused by the Contractor, or Contractor's Agent, to the extent that the cost of such loss is not recovered from insurance carried by the Owner and the Contractor, and any additional expenses for unforeseen difficulties encountered, for settlement of damages and for replacement of defective work and materials.
- D. Before submitting a Bid, the Bidder shall become familiar with the Drawings, Specifications and other documents that will form the Contract, shall investigate the site of the Project and make such examination thereof as may be necessary to determine the character and amount of work involved. The Bidder shall also determine that they can secure the necessary labor and equipment and that the materials proposed to use will comply with the requirements specified therefore and can be obtained by the bidder in the quantities and at the time required.
1. **Site visit(s) can be arranged only upon request, subject to COVID-19 restrictions. Requests for a site visit(s) shall be made to the architect ([gduthie@fvhdpc.com](mailto:gduthie@fvhdpc.com) / [info@fvhdpc.com](mailto:info@fvhdpc.com)).**
- E. The Owner reserves the right to accept or reject all bids including Alternate Bids, if any, pursuant to applicable law under any Contract for a period up to sixty (60) days after receipt of bids.

## **1.2 CONSTRUCTION WORKERS PROTECTION DURING COVID-19**

- A. Due to COVID-19 and New Jersey Executive Orders EO107 and LFN2020-10, Construction workers shall follow recommended precautions to protect themselves and other workers, staff, students, etc. at the project site(s).
  - 1. Limit close contact with others by maintaining a distance of at least 6 feet, when possible.
  - 2. Wear cloth face coverings in public settings.
  - 3. Clean and disinfect frequently touched surfaces such as shared tools, machines, vehicles and other equipment, handrails, ladders, doorknobs, and portable toilets.
  - 4. Practice proper hand hygiene.
  - 5. Contractors, Subcontractors and all Workers assume sole responsibility for working at this project under these conditions.
- B. Refer to the follow organizations for additional recommended precautions:
  - 1. Centers for Disease Control and Prevention (CDC).
  - 2. State of New Jersey Department of Health.
  - 3. World Health Organization.

## **1.3 ETHICS IN PURCHASING**

- A. School District Responsibility
  - 1. Recommendation of Purchases
    - a. It is the desire of the Board of Education to have all Board employees and officials practice exemplary ethical behavior in the procurement of goods, materials, supplies, and services.
    - b. School district officials and employees who recommend purchases shall not extend any favoritism to any vendor. Each recommended purchase should be based upon quality of the items, service, price, delivery, and other applicable factors in full compliance with N.J.S.A. 18A:18A-26-33 et seq.
    - c. Solicitation/Receipt of Gifts - Prohibited:
      - 1) School district officials and employees are prohibited from soliciting and receiving funds, gifts, materials, goods, services, favors, and any other items of value from vendors doing business with the Board of Education or anyone proposing to do business with the Board of Education.
  - 2. Vendor Responsibility:
    - a. Offer of Gifts, Gratuities – Prohibited
      - 1) Any vendor doing business or proposing to do business with the Board of



Education, shall neither pay, offer to pay, either directly or indirectly, any fee, commission, or compensation, nor offer any gift, gratuity, or other thing of value of any kind to any official or employee of the Board of Education or to any member of the official's or employee's immediate family.

b. Vendor Influence – Prohibited:

- 1) No vendor shall cause to influence or attempt to cause to influence, any official or employee of the Board of Education, in any manner which might tend to impair the objectivity or independence of judgment of said official or employee.

3. Vendor Certification:

- a. Vendors or potential vendors will be asked to certify that no official or employee of the Board of Education or immediate family members are directly or indirectly interested in this request or have any interest in any portions of profits thereof. The vendor participating in this request must be an independent vendor and not an official or employee of the Board of Education.

#### **1.4 OBLIGATION OF BIDDER**

- A. At the time of the opening of bids each Bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Drawings and other Contract Documents, including all Addenda and Bulletins. The failure or omission of any Bidder to receive or examine any form, instrument or document or to visit the site and acquaint themselves with conditions there existing, shall not relieve Bidder from any obligation with respect to their bid.

1. **Refer to paragraph 1.1, D.1 above for information pertaining to arranging site visit(s), subject to COVID-19 restrictions.**

- B. Any and all discrepancies between the drawings and specifications or between trades shall be brought to the attention of the Architect prior to the Contractor(s) bid submission.

#### **1.5 CHALLENGES TO BID SPECIFICATIONS (N.J.S.A. 18A:18A-15)**

- A. Any prospective bidder who wishes to challenge a bid specification shall file such challenges in writing with the School Business Administrator/Board Secretary no less than three (3) business days prior to the opening of bids. Challenges filed after that date shall be considered void and having no impact on the Board of Education or the award of a contract.

#### **1.6 PREQUALIFICATION OF BIDDERS (CONTRACTORS AND SUBCONTRACTORS)**

- A. Pursuant to N.J.S.A. 18A:18A-26.33 et seq., as amended, and N.J.A.C. 17:19-2.1 through N.J.A.C. 17:19-2.7, Bidders on any Contract on public work for a Board of

Education in the State of New Jersey in which the entire cost of the Contract exceeds \$20,000.00, must be prequalified by the Division of Property Management and Construction (DPMC), as to character and amount of public work on which they may submit bids. Prequalified bidder must submit with the Bid, a "Notice of Classification" setting forth the type of work and the amount of work for which the bidder has been qualified, that there has been no material adverse change in their qualification information, the total amount of uncompleted work on contracts at the time and the date of the bid due date. Any bid submitted under the terms of New Jersey Statutes not including a copy of a valid and active Prequalification/Classification Certificate shall be cause for rejection as being nonresponsive to bid requirements. (Forms for this purpose are available from the Director of the Division of Property Management and Construction - DPMC, Trenton, New Jersey 08625.)

1. Each classified bidder's aggregate rating shall be calculated in accordance with formula prescribed by N.J.A.C. 17:19-2.8.
  - a. Calculations shall be based on Bidder's base bid amount at time of bid or total amount of base bid and accepted Alternate Bids at time of Award.
- B. In accordance with N.J.S.A. 34:11-56.48 et seq. and N.J.S.A. 18A:7G-37, each bidder must be properly registered with the New Jersey Department of Labor and Workforce Development at the time of the bid. The Contractor shall enter into subcontracts only with subcontractors who are registered pursuant to N.J.S.A. 34:11-56.48 et seq.
  1. No Contractor/Subcontractor will be permitted to bid on or engage in any contract for public work, as defined in the "New Jersey Prevailing Wage Act," N.J.S.A. 34:11-56.26 et seq., unless that Contractor/ Subcontractor is registered with the New Jersey Department of Labor and Workforce Development at the time of the bid.
- C. The Owner may make such additional investigations as it deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that they are properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein.

## **1.7 TOTAL AMOUNT OF UNCOMPLETED CONTRACTS**

- A. Uncompleted Contracts (For Contracts Exceeding \$20,000) (N.J.A.C. 17:19-2.13(a))
  1. The Board requires that each bidder submit with his/her bid, a certified Total Amount of Uncompleted Contracts form as prescribed by the cited regulation. (Form DPMC 701). Failure to submit this document will lead to having the bid being rejected as non-responsive.

## 1.8 CHANGES TO BID DOCUMENTS, INTERPRETATIONS AND ADDENDA

- A. Changes to the Bid Documents may be required to be issued via Addenda. FVHD will issue notice of the publication of all Addenda to prospective bidders, who have obtained bid documents from FVHD. **All bidders are to check the FVHD website [www.fvhdp.com](http://www.fvhdp.com) and download addenda if any are issued for the project.**
1. All Addenda issued become a part of the Bid Documents and will be part of the Contract Documents as though originally incorporated into the Project Manual.
  2. A notification of Addenda changes to the bid documents will be faxed to all bidders who have received bid documents from FVHD Architects. Bidders will be responsible to download the applicable Addendum(s) from the Architects website at [www.fvhdp.com/bids/bidlisting.aspx](http://www.fvhdp.com/bids/bidlisting.aspx).
  3. Bidders must acknowledge receipt of all Addenda on the Bid Form or the bid may be deemed non-responsive by the Owner's Attorney.
- B. Pre-bid Request for Information: No oral interpretations will be made to any Bidder as to the meaning of the drawings and specifications. Every request for such an interpretation shall be made in writing, addressed and forwarded by mail or facsimile transmission to the Architect's office no later than ten (10) business days prior to the bid opening date (not including Federal or State Holidays). All requests must state Pre-Bid Request for Clarification, include the project name and number to the attention of:

**Fraytak Veisz Hopkins Duthie, P.C.**

Architects / Planners

Thaddeus Heinz, Project Manager

1515 Lower Ferry Rd, Trenton, NJ 08618

Electronic Facsimile (609) 883-2694

**FVHD Project No. 5295**

1. Every interpretation made to a Bidder will be in the form of an Addendum. During the bidding period, the Architect may furnish Addenda for additions to or alterations of the drawings and specifications, which shall be included in the work covered by the Bid Form(s).
2. Addenda, when issued, will be made available no later than seven (7) business days prior to the date for receiving bids, Saturday, Sunday or holidays excepted, to all persons who have obtained Bid Documents from the Architect.
3. Addenda will also be available for examination at the Architect's office.
4. It shall be the responsibility of the Bidder to ascertain that they have received and examined all Addenda and Bulletins issued, prior to submitting their bid. Failure

of the Bidder to download and examine all Addenda shall not relieve the Bidder from any of the requirements of the Bid Documents.

5. All addenda will be issued in accordance with N.J.S.A. 18A:18A-21(c).

## 1.9 PREPARATION OF BIDS

- A. Enclose **two copies (one original and one copy)** of the Bid in a sealed envelope, identified on the outside of the envelope and clearly marked "BID" with the name and address of the bidder, name of the project and contract number in which the bidder is submitting.
- B. Bids shall be submitted on the form of Bid furnished by the Architect, properly filled out and duly executed. Bid forms shall not be altered or added to in any way. Lump Sum Bid or Base Bid prices shall be filled in, in ink or typewritten, in both words and figures. In case of discrepancy, the amount described in words shall govern.
  - 1. **Bids containing any conditions, omissions, unexplained erasure or alteration, items not called for in the Bid Form, attachment of additive information not required by the Specifications, or irregularities of any kind may be rejected by the Owner.**
  - 2. **Any changes, white-outs, strike-outs, etc. on the Bid Form must be initialed in ink by the person responsible for signing the Bid Form.**
- C. When the Bid is made by an individual, their post office address shall be stated and they shall sign the Bid. When made by a firm or partnership, its name and post office address shall be stated and the Bid shall be signed by one or more of the partners. When made by a corporation, its name and principal post office address shall be stated, and the Bid shall be signed by an authorized official of the corporation.
- D. Alternate Bids and Unit Prices for the various portions of work or Contracts shall be as stated in other Sections of the Specifications.
  - 1. Attention is called particularly to the requirements for filling in all Alternate Bids called for on the Bid Form, as the Owner reserves the right to award a Contract based upon the possible inclusion of one or more such Alternate Bids.
  - 2. The amounts of the Alternate Bids shall include any and all modifications to related, adjacent or surrounding work made necessary by use of such Alternate Bids.
  - 3. The Alternate Bids must be stated as additions to or deductions from the Base Bid, unless otherwise noted.
  - 4. **The term "No Bid" shall not be used with respect to Alternate Bids and Unit Prices requested on the Bid Forms. The Bidder who does not desire to make**

**a change from the Base Bid under a particular Alternate Bid shall so indicate by using the words "No Change." Failure to bid or use of the term "No Bid" on any Alternate shall cause rejection of entire bid.**

5. Bidders must bid on every alternate bid. Additions to, or deductions from, the base bid shall be indicated in the appropriate blanks on the Bid form with additions to or deductions from the base bid filled in as appropriate. If a particular alternate bid does not result in an addition to or deduction from the base bid, the words "No Change" or N/C" shall be written in the blank for "No Change" on the Bid form, and the words "No Change" shall be written in the blank provided for the purpose of stating the numeric amount in words. Failure to bid on every alternate bid shall render the bid nonresponsive and shall cause the bid to be rejected.

#### **1.10 BID GUARANTEE**

- A. The Bid, when submitted, shall be accompanied by a Bid Guarantee in the form of a Certified Check, Cashier's Check or acceptable Bid Bond made payable unconditionally to the Owner, in the sum of ten percent (10%) of the Bid, but in no case in excess of \$20,000.00 and as per Bid Bond Form included:
  1. Bid Bond Form: Bid Bond shall be as per bid form included and shall include an effective and current Power of Attorney authorizing the Attorney-in Fact to bind the surety, on Bid Date and Time, for the full amount of the Bond.
  2. Bid shall be accompanied by a Proposition of Surety in accordance with paragraph 1.11.
- B. Pursuant to N.J.S.A. 18A:18A-36, all Bid Guarantees, except those of the three apparent lowest responsible bidders, will be returned, if requested, after ten (10) days from opening of bids, Sundays and holidays excepted. Within three (3) days after the awarding of the contract and the approval of the Contractor's performance bond and payment bond, the bid security of the remaining unsuccessful bidders will be returned, Sundays and holidays excepted.
- C. The Bid Guarantee shall be forfeited if successful Bidder fails to execute the Agreement between Owner and Contractor identified in paragraph 12 hereof and furnish the Performance-Payment Bond within ten (10) days after notification of award of Contract to him/her (Sundays and holidays excepted).
  1. Any failure by the successful bidder to perform its obligations regarding the time, manner, and substance of compliance with Bidding Documents in relation to the Award of a Contract, shall constitute an Event of Default, entitling the Owner to:
    - a. Demand, from said guarantor, immediate payment of the entire Bid Bond amount, as liquidated damages, not as a penalty, for the delay which is acknowledged and agreed that the Owner will sustain in connection with said Default; and in addition thereto,

- b. Recovery of any and all other Losses incurred by the Owner, to which the Owner shall, to the fullest extent permitted by Applicable Law, be entitled to recover, including without limitation Special Damages.

## 1.11 CONTRACT BONDS

- A. Prior to start of guarantee period and before the final payment is made, the Contractor shall provide the Owner with a Maintenance Bond in the amount of ten percent (10%) of Final Contract Amount, to insure the replacement or repair of defective materials or workmanship during the one-year guarantee period. Pursuant to N.J.S.A. 18A:18A-25, Bids shall be accompanied by a Proposition of Surety in form as bound in these documents, assuring that satisfactory arrangements have been made between the surety and the Bidder by which surety agrees to furnish within ten (10) days after notification of award, Sundays and holidays excepted, of contract to him/her, furnish and deliver a Performance Bond and Payment Bond; each in the amount of 100% of the amount bid. Also surety agrees to furnish Bidder with a Maintenance Bond in form as bound herein.
  - 1. The Proposition of Surety shall be executed by an approved surety company authorized to do business in the State of New Jersey and in accordance N.J.S.A. 2A:44-143, and with the three highest rating categories of rating companies nationally recognized and listed as per Appendix A (go to [www.nj.gov/dobi/surety.htm](http://www.nj.gov/dobi/surety.htm)).
  - 2. If, at any time after execution and approval of a Contract and Performance-Payment Bond required by Contract Documents, such Bond shall cease to be adequate security for the Owner, the Contractor shall, within five (5) days after notice to do so, furnish a new or additional Bond, in form, sum and signed by such Sureties as shall be satisfactory to the Owner. No further payment shall be deemed due nor shall any further payment be made to the Contractor unless and until such new or additional Bond shall be furnished and approved.
- B. Prior to start of guarantee period and before the final payment is made, the Contractor shall provide the Owner with a Maintenance Bond in the amount of ten percent (10%) of Final Contract Amount, to insure the replacement or repair of defective materials or workmanship during the **one-year** guarantee period.
- C. The cost of all Bonds shall be paid for by the Contractor and shall be included as a part of Contractor's bid price.

## 1.12 POWER OF ATTORNEY

- A. Attorneys-in-fact who sign Bid Bonds, Performance and Payment Bonds, Maintenance Bonds and Proposition of Surety forms must accompany each bond or proposition with a certified and effectively dated copy of their power-of-attorney.

### **1.13 FORM OF AGREEMENT**

- A. The form of agreement shall be AIA Document A101 Standard Form of Agreement between Owner and Contractor, (Stipulated Sum) 2017 Edition, and in accordance with AIA Document A201 General Conditions of the Contract, 2017 Edition as amended, and all other documents referenced herein.

### **1.14 CERTIFICATE OF AUTHORITY**

- A. All bidders are to submit their Sworn Contractor Certification, a current valid "Certificate of Authority" as issued by the New Jersey Department of Treasury. Reference-N.J.S.A. 18A:7G-37.

### **1.15 AWARD OF CONTRACT**

- A. Award, if made, will be to the lowest responsive and responsible bidder for the Single Overall Building Contract selected to include Alternate Bids, if any, which the Owner chooses to accept, that result(s) in the lowest aggregate total sum pursuant to N.J.S.A. 18A:18A-4.
- B. Award made to a Bidder not a resident of the State of New Jersey is conditioned upon Bidder designating a proper agent in the State of New Jersey on whom service can be made in the event of litigation.
- C. If the successful Bidder is a corporation not organized under the laws of New Jersey, the award of Contract and payment of consideration thereunder shall be conditioned upon the Corporation procuring a "certificate" of authority to transact business in the State of New Jersey pursuant to N.J.S.A. 14A:13-3 and complying with the provisions of N.J.S.A.14A:13-4.
- D. NJ Business Registration Certificate:
  - 1. Pursuant to N.J.S.A. 52:32-44, Hopewell Valley Regional School District ("Contracting Agency") is prohibited from entering into a contract with an entity unless the bidder/proposer/contractor, and each subcontractor that is required by law to be named in a bid/proposal/contract has a valid Business Registration Certificate on file with the Division of Revenue and Enterprise Services within the Department of the Treasury.
  - 2. Prior to contract award or authorization, the contractor shall provide the Contracting Agency with its proof of business registration and that of any named subcontractor(s).
  - 3. Subcontractors named in a bid or other proposal shall provide proof of business registration to the bidder, who in turn, shall provide it to the Contracting Agency prior to the time a contract, purchase order, or other contracting document is awarded or authorized.

4. During the course of contract performance:
  - a. the contractor shall not enter into a contract with a subcontractor unless the subcontractor first provides the contractor with a valid proof of business registration.
  - b. the contractor shall maintain and submit to the Contracting Agency a list of subcontractors and their addresses that may be updated from time to time.
  - c. the contractor and any subcontractor providing goods or performing services under the contract, and each of their affiliates, shall collect and remit to the Director of the Division of Taxation in the Department of the Treasury, the use tax due pursuant to the Sales and Use Tax Act, (N.J.S.A. 54:32B-1 et seq.) on all sales of tangible personal property delivered into the State. Any questions in this regard can be directed to the Division of Taxation at (609)292-6400. Form NJ-REG can be filed online at:  
<http://www.state.nj.us/treasury/revenue/busregcert.shtml>
5. Before final payment is made under the contract, the contractor shall submit to the Contracting Agency a complete and accurate list of all subcontractors used and their addresses.
6. Pursuant to N.J.S.A. 54:49-4.1, a business organization that fails to provide a copy of a business registration as required, or that provides false business registration information, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000, for each proof of business registration not properly provided under a contract with a contracting agency.
7. Emergency Purchases or Contracts
  - a. For purchases of an emergent nature, the contractor shall provide its Business Registration Certificate within two weeks from the date of purchase or execution of the contract or prior to payment for goods or services, whichever is earlier.
- E. The Owner reserves the right to reject all bids, or to waive minor informalities or non-material exceptions in a bid, pursuant to applicable law.
- F. In accordance with requirements of the N.J.S.A. 18A:18A-36(b), execution of the Contract by all parties will be done within 21 days of the notification of the award date, Sundays and holidays excepted, after making the award.
  1. The Bidder to whom the contract is awarded shall be required to execute said Contract within ten (10) calendar days of the notification of the award to him/her, Sundays and holidays excepted, after making the award.
- G. Upon award of the Contract, the Contractor shall execute and return to the Owner the "Contractor Certification and Consent Upon Award of Contract," attached to the Contract as an Exhibit.
- H. The award of the contract is subject to availability and appropriation of sufficient funds.



## **1.16 BID PROTESTS AND CONTRACTOR'S RESPONSIBILITY**

- A. Vendors or contractors may contact the Purchasing Agent in writing, when they feel it necessary to challenge a procurement specification item or to protest an award of contract. All challenges and protests will be reviewed by the Purchasing Agent, the District Administrator of the contract and the Board Attorney. All determinations shall be made in writing to the vendor or contractor. The Purchasing Agent pursuant to N.J.S.A. 18A:18A-2 (b) is the School Business Administrator.
- B. A protest filed shall:
  - 1. Include the name, street address, electronic mail address, and telephone and facsimile numbers of the protester;
  - 2. Be signed by the protester or its representative;
  - 3. Identify the bid or solicitation number and date of bid or solicitation;
  - 4. Include a detailed statement of the legal and factual grounds of protest including copies of relevant documents;
  - 5. Set forth all information establishing that the protester is an interested party for the purpose of filing a protest;
  - 6. Set forth all information establishing the timeliness of the protest; and
  - 7. Provide any or all information pertaining to the bid protest.

## **1.17 BIDDING DOCUMENTS**

- A. The Bidding Documents consist of, but are not limited to, the following:
  - 1. Instructions to Bidders in accordance with this Section,
  - 2. General Conditions, AIA Document A201, and as supplemented in the Supplementary General Conditions; Section 00800,
  - 3. Bid Form including attachments as per Bidder's Checklist,
  - 4. Erratum, Addenda, if issued,
  - 5. Specifications: As outlined in the "Index" included in the Project Manual,
  - 6. Drawings: As per List of Drawings indicated on Project Title Sheet and in accordance with Section 00850,
  - 7. Agreement Between Owner & Contractor, AIA Document A101 and as amended by the Project Specifications.
- B. Note: The above list is not intended to establish an order of precedence.

## **1.18 TIME OF COMPLETION AND LIQUIDATED DAMAGES**

- A. Refer to Section 01800, "Time of Completion and Liquidated Damages."

## **1.19 LISTING OF STOCKHOLDERS, PARTNERS OR MEMBERS (N.J.S.A. 52:25-24.2)**

### **A. Statement of Ownership**

1. No business organization, regardless of form of ownership, shall be awarded any contract for the performance of any work or the furnishing of any goods and services, unless, prior to the receipt of the bid or accompanying the bid of said business organization, bidders shall submit a statement setting forth the names and addresses of all persons and entities that own ten (10%) percent or more of its stock or interest of any type at all levels of ownership.
2. The included Statement of Ownership shall be completed and attached to the bid proposal. This requirement applies to all forms of business organizations, including, but not limited to, corporations and partnerships, publicly-owned corporations, limited partnerships, limited liability corporations, limited liability partnerships, sole proprietorship, and Subchapter S corporations. Failure to submit a disclosure document shall result in rejection of the bid as it cannot be remedied after bids have been opened.
3. Not-for-profit entities should fill in their name, check the not-for-profit box, and certify the form. No other information is required.

## **1.20 NON-COLLUSION AFFIDAVIT**

- A. The bidder shall submit the Non-Collusion Affidavit, on form as bound herein, must be submitted with the bid. Failure to submit this document will lead to having the bid being rejected as non-responsive.

## **1.21 FALSE MATERIAL REPRESENTATION / TRUTH IN CONTRACTING**

- A. A person commits a crime if the person knowingly makes a material representation that is false in connection with the negotiation, award or performance of a government contract. If the contract amount is for \$25,000.00 or above, the offender is guilty of a crime of the second degree. If the contract amount exceeds \$2,500.00, but is less than \$25,000.00, the offender is guilty of a crime of the third degree. If the contract amount is for \$2,500.00 or less, the offender is guilty of a crime of the fourth degree. Bidder should be aware of the following statutes that represent "Truth in Contracting" laws:
  1. N.J.S.A. 2C:21-34, governs false claims and representations by bidders. It is a serious crime for the bidder to knowingly submit a false claim and/or knowingly make material misrepresentation.
  2. N.J.S.A. 2C:27-11 provides that a bidder commits a crime if said person, directly or indirectly, confers or agrees to confer any benefit not allowed by law to a public servant.

3. Bidder should consult the statutes such as N.J.S.A. 18A:7G-39 or legal counsel for further information.

## **1.22 EQUIVALENT PRODUCTS**

- A. The use of manufacturers' brand names, catalogue numbers and similar proprietary identifying data in the Contract Documents are not intended to eliminate from consideration products that are equivalent in quality, appearance and function to those specified.

## **1.23 CONTRACT**

- A. As indicated in the Advertisement for Bids, it is intended to receive sealed bids and to award and administrate contract for the work required by the Contract Documents as follows:

### **Single Overall Contract**

- B. The Bidder shall be a firm classified by the State of New Jersey - Division of Property Management and Construction for the following classification:

#### **Prime General Contractor**

**C008 - General Construction**

OR

**C009 - General Construction/Alterations and Additions**

- C. **Pursuant to N.J.S.A. 18A:18A-26, the Bidder shall be in possession of the required DPMC Classification for the specified work.**

**END OF SECTION 00100**

**BID PROPOSAL FORM**

**SINGLE OVERALL CONTRACT**  
DPMC Classifications: C008 or C009

Hopewell Valley Regional School District  
Board of Education  
425 South Main Street  
Pennington, NJ 08534

1. The undersigned, having familiarized himself with the local conditions affecting the cost of the work, the drawings, the specifications and other Contract Documents, as in the Advertisement for Bids thereto, for the **Window Replacement and Related Work at Administration Building (FVHD-5295)**, 425 South Main Street, Pennington, NJ 08534, together with all work incidental thereto, in accordance with the requirements of the drawings and specifications prepared by Fraytak Veisz Hopkins Duthie, P.C., Architects/Planners, Trenton, New Jersey, hereby proposes to furnish all labor, materials and equipment required for all Work.

**SINGLE OVERALL CONTRACT - BASE BID:** All Work at the above referenced building, **including applicable Allowances** - Section 01020, in accordance with the requirements of Contract Documents, for the sum of:

\$ \_\_\_\_\_  
Numerical

\_\_\_\_\_  
If written amount differs from the numerical figure, only the written amount will be accepted as the correct bid.

2. **Alternate Proposal(s) - Section 01030** shall be quoted as additions to, deductions from or No Change (NC) to the Base Bid and shall be in accordance with the specifications for Alternate Bid Work. If written amount differs from the numerical figure, only the written amount will be accepted as the correct bid.

**Alternate Bid No. 1: Insulated Security Glazing**

ADD \$ \_\_\_\_\_ DEDUCT \$ \_\_\_\_\_ NO CHANGE \_\_\_\_\_

\_\_\_\_\_  
(Written)

3. **UNIT PRICES - SECTION 01151:**

**GENERAL CONSTRUCTION: Materials in Place.**

Cost to remove and replace broken bricks and mortar to match adjacent material per brick & surrounding mortar \$ \_\_\_\_\_ per 10 brick  
Cost to remove and replace deteriorated mortar to match adjacent material \$ \_\_\_\_\_ per lin. ft.  
Cost to remove and replace pre-cast window sill mortar to match adjacent material and all associated work \$ \_\_\_\_\_ per lin. ft.  
Cost to remove and replace miscellaneous structural steel lintel and all associated work \$ \_\_\_\_\_ per lin. ft.

Submitted by: \_\_\_\_\_  
(Firm Name)

3. Bidder hereby acknowledges receipt of the following Addenda:

No Addenda Issued

Addendum No. <u>    </u> ,	issued <u>                    </u>	received <u>                    </u> (initial)
Addendum No. <u>    </u> ,	issued <u>                    </u>	received <u>                    </u> (initial)
Addendum No. <u>    </u> ,	issued <u>                    </u>	received <u>                    </u> (initial)
Addendum No. <u>    </u> ,	issued <u>                    </u>	received <u>                    </u> (initial)

4. In submitting this bid, it is understood that the right is reserved by the Board of Education to accept or to reject any or all bids, and it is agreed that this bid may not be withdrawn for a period of sixty (60) days from the date set of the opening thereof.

5. Bid Security in the sum of \_\_\_\_\_ (\$ \_\_\_\_\_) in the form of \_\_\_\_\_ (Certified Check, Cashier's Check, or Bid Bond) is submitted herewith in accordance with the requirements of the specifications.

6. The undersigned is an individual (  )  
a partnership (  )  
a corporation (  ) under the laws of the State of \_\_\_\_\_,  
having principal office in the \_\_\_\_\_ of \_\_\_\_\_, County  
of \_\_\_\_\_, and State of \_\_\_\_\_.

Respectfully Submitted,

\_\_\_\_\_  
*(Company Name, if Bidder is a company)*

BIDDER'S SIGNATURE

\_\_\_\_\_  
*(Company Officer, if Bidder is a Corporation or LLC)*

(Seal, if Corporation)

\_\_\_\_\_  
*Printed or Typed Name Title of Officer (if the Bidder is a Company)*

\_\_\_\_\_  
*Address*

\_\_\_\_\_  
*City, State, Zip Code*

\_\_\_\_\_  
*Phone & Fax*

\_\_\_\_\_  
*Dated*

\_\_\_\_\_  
*Email Address*

NOTE: SEE BIDDERS CHECKLIST

Submitted by: \_\_\_\_\_  
*(Firm Name)*

## BIDDER'S CHECKLIST

The following checklist must be signed and submitted with the bid package to the owner as part of the bid documents. Failure to submit documents marked (\*) mandatory shall be automatic cause for rejection of the bid. Items that are not marked (\*) mandatory are encouraged to submit with bid but must be provided prior to the contract award.

### ITEM

- REVIEWED THE CONTRACT DOCUMENTS (INCLUDING THE PERMITS OBTAINED BY THE BOARD), WORK SITE, LOCALITY, AND ALL LOCAL CONDITIONS AND LAWS AND REGULATIONS THAT IN ANY MANNER MAY AFFECT COST, PROGRESS, PERFORMANCE OR FURNISHING OF WORK
- REVIEWED GENERAL BOND REQUIREMENTS
- REVIEWED AGREEMENT (OWNER/CONTRACTOR)
- (\*) BIDDER'S PROPOSAL
- (\*) BID BOND, CERTIFIED CHECK, CASHIER'S CHECK OR ANY COMBINATION THEREOF IN AN AMOUNT OF TEN PERCENT (10%) OF THE TOTAL AMOUNT OF BID, NOT TO EXCEED \$20,000 (TWENTY THOUSAND DOLLARS) (with Power of Attorney)
- (\*) PROPOSITION OF SURETY FOR 100% OF THE CONTRACT AMOUNT (with Power of Attorney)
- (\*) SUBCONTRACTOR IDENTIFICATION STATEMENT
- (\*) OWNERSHIP DISCLOSURE CERTIFICATION
- (\*) DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN
- (\*) NON COLLUSION AFFIDAVIT
- (\*) CERTIFICATION OF NO MATERIAL CHANGE OF CIRCUMSTANCES - CONTRACTOR
- (\*) CERTIFICATION OF NO MATERIAL CHANGE OF CIRCUMSTANCES - SUBCONTRACTOR
- (\*) CURRENT NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT PUBLIC WORKS CONTRACTORS REGISTRATION ACT CERTIFICATE (N.J.S.A. 34:11-56.48) ALL CONTRACTOR(S) AND NAMED SUBCONTRACTOR(S) ENCOURAGED TO SUBMIT WITH BID BUT REQUIRED PRIOR TO CONTRACT AWARD
- BUSINESS REGISTRATION CERTIFICATE - ALL CONTRACTOR(S) AND SUBCONTRACTOR(S) ENCOURAGED TO SUBMIT WITH BID BUT REQUIRED PRIOR TO CONTRACT AWARD
- (\*) DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION (DPMC) FORM 701 - TOTAL AMOUNT OF UNCOMPLETED CONTRACTS, N.J.S.A. 34:11-56.48 ET SEQ. - ALL CONTRACTOR(S) AND SUBCONTRACTOR(S)
- (\*) DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION (DPMC) CURRENT NOTICE OF CLASSIFICATION/PRE-QUALIFICATION CERTIFICATE(S) - ALL CONTRACTOR(S) AND SUBCONTRACTOR(S)
- (\*) AMERICANS WITH DISABILITY ACT 1990

**BIDDER'S CHECKLIST**

- (\*) EQUIPMENT CERTIFICATION
  - (\*) SWORN CONTRACTOR CERTIFICATION; QUALIFICATIONS AND CREDENTIALS (CONTRACTOR AND SUBCONTRACTORS)
  - (\*) EXHIBIT B - MANDATORY EQUAL EMPLOYMENT OPPORTUNITY
- CERTIFICATION OF NON DEBARMENT FOR FEDERAL GOVERNMENT PROJECTS SHALL BE SUBMITTED PRIOR TO AWARD OF CONTRACT
- STATUS OF PRESENT CONTRACTS
- TRADE LICENSE
- HVACR MASTER LICENSE (HVACR CONTRACTORS)
- CERTIFICATION OF INSURANCE STATEMENT
- PERFORMANCE RECORD CERTIFICATION
- COMPLIANCE WITH NEW JERSEY PREVAILING WAGE ACT
- POLITICAL CONTRIBUTION DISCLOSURE FORM

By signing below, I acknowledge having read and fully understand all the requirements of each of the documents referenced herein.

\_\_\_\_\_  
BIDDER (Signature)

Dated: \_\_\_\_\_

\_\_\_\_\_  
BIDDER (Print Name)

**BID BOND**

**THE UNDERSIGNED BIDDER** and "**Surety**", a corporation duly authorized to transact business in the State of New Jersey, are held and firmly bound unto \_\_\_\_\_ BOARD OF EDUCATION (the "**OWNER**") for the full and just sum of:

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_),  
**(10% of the Bid Price not to exceed \$20,000.00: words) (figures)**

The payment of which sum the **BIDDER** has submitted a Bid to perform certain Work described in Bidding Documents entitled:

**TITLE:** \_\_\_\_\_

**CONTRACT NO.:** \_\_\_\_\_

The **Surety** hereby agrees to pay the full face value of this Bond to the **OWNER**, as Liquidated Damages, and not as a penalty, unless this Bond is void.

This Bond shall only be void if the **BIDDER** well, truly and faithfully performs all requirements contained in the Bidding/Contract Documents incident to an Award of the Contract including, but not limited to, proper execution and submission of the Contract Forms and all other required documentation.

On this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, the **BIDDER** and **Surety** hereby bind themselves herein:

**FOR THE BIDDER:**

**FOR THE SURETY:**

\_\_\_\_\_  
(Name of **BIDDER**)

\_\_\_\_\_  
(Name of **Surety**)

By: \_\_\_\_\_  
(Print Name-**BIDDER's** Authorized Representative)

By: \_\_\_\_\_  
(Print Name of Attorney-in-Fact)

By: \_\_\_\_\_  
(Signature-**BIDDER's** Authorized Representative)

By: \_\_\_\_\_  
(Signature of Attorney-in-Fact)

**IMPORTANT – ATTACH AND SUBMIT WITH THE BID:**

- **A POWER OF ATTORNEY FOR THE ATTORNEY-IN-FACT WHICH IS CURRENTLY DATED AND VALID FOR THE ENTIRE AMOUNT OF THE BOND**



**FORM OF PROPOSITION OF SURETY**

**PERFORMANCE BOND, PAYMENT BOND and MAINTENANCE BOND**

For and in consideration of the sum of one dollar (\$1.00) lawful money of the United States, the receipt is hereby acknowledged, paid to the undersigned surety, and for other valuable consideration, the undersigned surety, authorized to transact business in the State of \_\_\_\_\_, certifies and agrees that if the Contract entitled: \_\_\_\_\_

CONTRACT \_\_\_\_\_,  
(NUMBER) (TITLE)

is awarded to: \_\_\_\_\_  
(BIDDER'S NAME)

the undersigned hereby warrants that it is in all respects qualified to provide the required Bonds as set forth in the Contract Documents, and that it will provide and execute the **Performance Bond** in the full amount of awarded contract in the event that said contractor is awarded a contract for the above project, the **Payment Bond**, and the **Maintenance Bond** in the form and as otherwise required by the Contract Documents.

\_\_\_\_\_  
(Print Name of Surety)

\_\_\_\_\_  
(Print Name of Attorney-in-Fact)

\_\_\_\_\_  
(Signature of Attorney-in-Fact)

**ATTACH AND SUBMIT WITH THE BID: A POWER OF ATTORNEY FOR THE ATTORNEY -IN-FACT WHICH IS CURRENTLY DATED AND VALID FOR THE TOTAL AMOUNT OF ALL BONDS.**

Proposition of Surety must be signed by an authorized agent or representative of a surety company and not by the individual or company representative submitting the bid.

**NOTE:** IF SUBCONTRACTORS ARE LISTED ON BID FORM, N.J.S.A. 18A:18A-18 REQUIRES THAT EVIDENCE OF PERFORMANCE SECURITY AS TO SUBCONTRACTORS BE SUBMITTED WITH THE BID, EITHER BE THE BIDDER ON ITS OWN BEHALF AND ON BEHALF OF ALL LISTED SUBCONTRACTORS, OR BY EACH SUBCONTRACTOR, OR ANY COMBINATION THEREOF, PROVIDED THAT THE PERFORMANCE SECURITY IN TOTAL EQUALS, BUT DOES NOT EXCEED, THE TOTAL AMOUNT OF THE BID.

**SUBCONTRACTOR IDENTIFICATION STATEMENT**

The following information is to be provided in the case of all subcontractors who will furnish labor of the various trades governed by N.J.S.A. 18A:18A-18 (b) (General Construction, Steel, Plumbing, HVAC, Electric) and all DPMC Specialty Trades, where applicable.

TRADE	Contractor's Name/Address/Telephone	NJ License No.

If work of the types designated by the above referenced law will be performed by the Bidder, the Bidder shall state below and shall enclose copies of licenses covering each trade.

TRADE	N.J. License No.

BIDDER \_\_\_\_\_

**STATEMENT OF OWNERSHIP DISCLOSURE**

N.J.S.A. 52:25-24.2 (P.L. 1977, c.33, as amended by P.L. 2016, c.43)

**This statement shall be completed, certified to, and included with all bid and proposal submissions. Failure to submit the required information is cause for automatic rejection of the bid or proposal.**

Name of Organization: \_\_\_\_\_

Organization Address: \_\_\_\_\_

City, State, ZIP: \_\_\_\_\_

**Part I Check the box that represents the type of business organization:**

- Sole Proprietorship
- Non-Profit Corporation (skip Parts II and III, execute certification in Part IV)
- For-Profit Corporation (any type)       Limited Liability Company (LLC)
- Partnership       Limited Partnership       Limited Liability Partnership (LLP)
- Other (be specific): \_\_\_\_\_

**Part II Check the appropriate box**

- The list below contains the names and addresses of all stockholders in the corporation who own 10 percent or more of its stock, of any class, or of all individual partners in the partnership who own a 10 percent or greater interest therein, or of all members in the limited liability company who own a 10 percent or greater interest therein, as the case may be. **(COMPLETE THE LIST BELOW IN THIS SECTION)**
- OR**
- No one stockholder in the corporation owns 10 percent or more of its stock, of any class, or no individual partner in the partnership owns a 10 percent or greater interest therein, or no member in the limited liability company owns a 10 percent or greater interest therein, as the case may be. **(SKIP TO PART IV)**

(Please attach additional sheets if more space is needed):

Name of Individual or Business Entity	Address (for Individuals) or Business Address

**Part III DISCLOSURE OF 10% OR GREATER OWNERSHIP IN THE STOCKHOLDERS, PARTNERS OR LLC MEMBERS LISTED IN PART II**

If a bidder has a direct or indirect parent entity which is publicly traded, and any person holds a 10 percent or greater beneficial interest in the publicly traded parent entity as of the last annual federal Security and Exchange Commission (SEC) or foreign equivalent filing, ownership disclosure can be met by providing links to the website(s) containing the last annual filing(s) with the federal Securities and Exchange Commission (or foreign equivalent) that contain the name and address of each person holding a 10% or greater beneficial interest in the publicly traded parent entity, along with the relevant page numbers of the filing(s) that contain the information on each such person. **Attach additional sheets if more space is needed.**

Website (URL) containing the last annual SEC (or foreign equivalent) filing	Page #'s

Please list the names and addresses of each stockholder, partner or member owning a 10 percent or greater interest in any corresponding corporation, partnership and/or limited liability company (LLC) listed in Part II **other than for any publicly traded parent entities referenced above.** The disclosure shall be continued until names and addresses of every non-corporate stockholder, and individual partner, and member exceeding the 10 percent ownership criteria established pursuant to N.J.S.A. 52:25-24.2 has been listed. **Attach additional sheets if more space is needed.**

Stockholder/Partner/Member and Corresponding Entity Listed in Part II	Address (for Individuals) or Business Address

**Part IV Certification**

I, being duly sworn upon my oath, hereby represent that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I acknowledge: that I am authorized to execute this certification on behalf of the bidder/proposer; that the \_\_\_\_\_ **Board of Education** is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the completion of any contracts with the **Board of Education** to notify the **Board of Education** in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the, permitting the **Board of Education** to declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print):		Title:	
Signature:		Date:	

**This statement shall be completed, certified to, and included with all bid and proposal submissions. Failure to submit the required information is cause for automatic rejection of the bid or proposal.**

PERFORMANCE RECORD

How many years has your organization been in business as a Contractor under your present business name? \_\_\_\_\_

How many years experience in construction work has your organization had:

(a) As a Prime contractor? \_\_\_\_\_ (b) As a subcontractor? \_\_\_\_\_

What is the construction experience of the principal individuals of your organization?

Individual's Name	Present Position or Office	Years of Constr. Experience	Magnitude and Type of Work	In What Capacity

Have you ever failed to complete any work contracted to you? \_\_\_\_\_

If so, where and why? \_\_\_\_\_

Has any officer or partner of your organization ever failed to complete a construction contract handled in its own name?

If so, state name of individual, name of owner, location and type of project and reason for the failure to complete.





### **Compliance with New Jersey Prevailing Wage Act (N.J.S.A. 34:11-56.25 et seq.)**

Every contractor and subcontractor performing services in connection with this project, shall pay all workers a wage rate not less than the published prevailing wage rates, for the locality the work is being performed, as designated by the New Jersey Department of Labor and Workforce Development (NJ DLWD).

Wage rates for the county of the location of the school district, as published by the State Department of Labor and Workforce Development (DLWD), can be viewed at [https://www.nj.gov/labor/wagehour/wagerate/prevailing\\_wage\\_determinations.html](https://www.nj.gov/labor/wagehour/wagerate/prevailing_wage_determinations.html)

The contractor must complete and sign the "Prevailing Wage Certification" form included in the bid package and submit with his bid. This form confirms the contractor's intention to comply with the act. The Board may terminate the contract if contractor fails to pay workers prevailing wage.

The prevailing wage rates in affect at the time of award, will be included as a part of the construction contract.



## PREVAILING WAGES COMPLIANCE CERTIFICATION

It is the determination of the Board of Education that this is a public works project that in total will exceed \$2,000.00 (two thousand dollars), therefore prevailing wages rules and regulations apply as promulgated by the New Jersey Prevailing Wage Act and in conformance with N.J.S.A. 34:11-56:25 et seq.

### Certification

1. I certify that our company understands that this project of the Board of Education requires prevailing wages to be paid in full accordance with the law.
2. I further certify that all subcontractors named in this bid understand that this project requires the subcontractor to pay prevailing wages in full accordance with the law.

### Non-compliance Statement

If it is found that any worker, employed by the contractor or any subcontractor covered by said contract, has been paid a rate of wages less than the prevailing wage required to be paid by such contract, the Board of Education, may begin proceedings to terminate the contractor's or subcontractor's right to proceed with the work, or such part of the work as to which there has been a failure to pay required wages and to prosecute the work to completion or otherwise. The contractor and his sureties shall be liable for any excess costs occasioned thereby to the public body.

### NOTIFICATION OF VIOLATIONS – New Jersey Department of Labor and Workforce Development

Has the bidder or any person having an "interest" with the bidder, been notified by the New Jersey Department of Labor and Workforce Development by notice issued pursuant to N.J.S.A. 34:11-56a et seq that he/she has been in violation for failure to pay prevailing wages as required by the New Jersey Prevailing Wage Act within the last five (5) years?

\*Yes \_\_\_\_\_

No \_\_\_\_\_

\*If yes, please attach a signed document explaining any/or all administrative proceedings with the Department within the last five (5) years. Please include any pending administrative proceedings with the Department if any.

### Submission of Certified Payroll Records

All certified payroll records are to be submitted to the Owner, Business Administrator, who is coordinating the activities for the project:

Name of Company \_\_\_\_\_

Authorized Agent \_\_\_\_\_

Authorized Signature \_\_\_\_\_

**NON-COLLUSION AFFIDAVIT**

STATE OF NEW JERSEY/ \_\_\_\_\_  
(Specify, if Other)

COUNTY OF \_\_\_\_\_

I, \_\_\_\_\_, of the (City, Town, Borough) of \_\_\_\_\_ State of \_\_\_\_\_, of full age, being duly sworn according to law on my oath depose and say that:

I am \_\_\_\_\_ of the firm of \_\_\_\_\_, the Bidder making the Proposal for the above named Projects, and that I executed the said Proposal with full authority to do so; that said Bidder has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above named Project; and that all statements contained in said Proposal and in this affidavit are true and correct, and made with full knowledge, and the State of New Jersey relies upon the truth of the statements contained in this affidavit in awarding the contract for the said Project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by \_\_\_\_\_. (Name of Contractor)

(N.J.S.A. 52:34-15)

By: \_\_\_\_\_  
(Signature of Authorized Representative)

Subscribed and sworn to before me  
this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Seal) Notary Public of New Jersey/

Specify Other State

My Commission Expires \_\_\_\_\_, 20 \_\_\_\_.

**THIS FORM MUST BE COMPLETED, SIGNED, NOTARIZED, AND SUBMITTED WITH BID**

**CERTIFICATION OF NO MATERIAL CHANGE OF CIRCUMSTANCES**

Bidder's Name: \_\_\_\_\_

Address: \_\_\_\_\_

1. A statement as to the financial ability, adequacy of plant equipment, organization and prior experience of the Bidder, as required by N.J.S.A. 18A:18A-28 has been submitted to the Department of Treasury within the last twelve (12) months preceding the date of opening of bids for this contract.
  
2. I certify, as required by N.J.S.A. 18A:18A-32, that there has been no material adverse change in the qualification except:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
(Name and Title of Signer - Please print or type)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

STATUS OF PRESENT CONTRACTS

**PURSUANT TO N.J.A.C. 17:19-2.13, BIDDER DECLARES THE FOLLOWING WITH RESPECT TO ITS UNCOMPLETED CONTRACTS, ON ALL WORK, FROM WHATEVER SOURCE (PUBLIC AND PRIVATE), BOTH IN NEW JERSEY AND FROM OTHER GOVERNMENTAL JURISDICTIONS.**

- Each classified bidder's aggregate rating shall be calculated in accordance with formula prescribed by N.J.A.C. 17:19-2.8.
- Calculations shall be based on Bidder's base bid amount only at time of bid or total amount of base bid and accepted Alternate Bids at time of Award.

Entity	Project Title	Original Contract Amount	Uncompleted Amount As of Bid Opening Date	Name and Telephone Number of Party To Be Contacted From Entity For Verification

Sworn and Subscribed to before me  
 this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

BIDDER

Notary Public \_\_\_\_\_

(Print and Signature)

# C. 271 POLITICAL CONTRIBUTION DISCLOSURE FORM

## Contractor Instructions

Business entities (contractors) receiving contracts from a public agency that are NOT awarded pursuant to a “fair and open” process (defined at N.J.S.A. 19:44A-20.7) are subject to the provisions of P.L. 2005, c. 271, s.2 (N.J.S.A. 19:44A-20.26). This law provides that 10 days prior to the award of such a contract, the contractor shall disclose contributions to:

- any State, county, or municipal committee of a political party
- any legislative leadership committee\*
- any continuing political committee (a.k.a., political action committee)
- any candidate committee of a candidate for, or holder of, an elective office:
  - of the public entity awarding the contract
  - of that county in which that public entity is located
  - of another public entity within that county
  - or of a legislative district in which that public entity is located or, when the public entity is a county, of any legislative district which includes all or part of the county

The disclosure must list reportable contributions to any of the committees that exceed \$300 per election cycle that were made during the 12 months prior to award of the contract. See N.J.S.A. 19:44A-8 and 19:44A-16 for more details on reportable contributions.

N.J.S.A. 19:44A-20.26 itemizes the parties from whom contributions must be disclosed when a business entity is not a natural person. This includes the following:

- individuals with an “interest” ownership or control of more than 10% of the profits or assets of a business entity or 10% of the stock in the case of a business entity that is a corporation for profit
- all principals, partners, officers, or directors of the business entity or their spouses
- any subsidiaries directly or indirectly controlled by the business entity
- IRS Code Section 527 New Jersey based organizations, directly or indirectly controlled by the business entity and filing as continuing political committees, (PACs).

When the business entity is a natural person, “a contribution by that person’s spouse or child, residing therewith, shall be deemed to be a contribution by the business entity.” [N.J.S.A. 19:44A-20.26(b)] The contributor must be listed on the disclosure.

Any business entity that fails to comply with the disclosure provisions shall be subject to a fine imposed by ELEC in an amount to be determined by the Commission which may be based upon the amount that the business entity failed to report.

The enclosed list of agencies is provided to assist the contractor in identifying those public agencies whose elected official and/or candidate campaign committees are affected by the disclosure requirement. It is the contractor’s responsibility to identify the specific committees to which contributions may have been made and need to be disclosed. The disclosed information may exceed the minimum requirement.

The enclosed form, a content-consistent facsimile, or an electronic data file containing the required details (along with a signed cover sheet) may be used as the contractor’s submission and is disclosable to the public under the Open Public Records Act.

The contractor must also complete the attached Stockholder Disclosure Certification. This will assist the agency in meeting its obligations under the law. **NOTE: This section does not apply to Board of Education contracts.**

\* N.J.S.A. 19:44A-3(s): “The term “legislative leadership committee” means a committee established, authorized to be established, or designated by the President of the Senate, the Minority Leader of the Senate, the Speaker of the General Assembly or the Minority Leader of the General Assembly pursuant to section 16 of P.L.1993, c.65 (C.19:44A-10.1) for the purpose of receiving contributions and making expenditures.”



STATE OF NEW JERSEY -- DIVISION OF PURCHASE AND PROPERTY  
DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN

Quote Number: \_\_\_\_\_

Bidder/Offeror: \_\_\_\_\_

**PART 1: CERTIFICATION**

**BIDDERS MUST COMPLETE PART 1 BY CHECKING EITHER BOX.**

**FAILURE TO CHECK ONE OF THE BOXES WILL RENDER THE PROPOSAL NON-RESPONSIVE.**

Pursuant to Public Law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates, is identified on the Department of Treasury's Chapter 25 list as a person or entity engaging in investment activities in Iran. The Chapter 25 list is found on the Division's website at <http://www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf>. Bidders **must** review this list prior to completing the below certification. **Failure to complete the certification will render a bidder's proposal non-responsive.** If the Director finds a person or entity to be in violation of law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party

**PLEASE CHECK THE APPROPRIATE BOX:**

I certify, pursuant to Public Law 2012, c. 25, that neither the bidder listed above nor any of the bidder's parents, subsidiaries, or affiliates is listed on the N.J. Department of the Treasury's list of entities determined to be engaged in prohibited activities in Iran pursuant to P.L. 2012, c. 25 ("Chapter 25 List"). I further certify that I am the person listed above, or I am an officer or representative of the entity listed above and am authorized to make this certification on its behalf. **I will skip Part 2 and sign and complete the Certification below.**

**OR**

I am unable to certify as above because the bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the Department's Chapter 25 list. I will provide a detailed, accurate and precise description of the activities in Part 2 below and sign and complete the Certification below. Failure to provide such will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

**PART 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN**

You must provide a detailed, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the boxes below.

**EACH BOX WILL PROMPT YOU TO PROVIDE INFORMATION RELATIVE TO THE ABOVE QUESTIONS. PLEASE PROVIDE THOROUGH ANSWERS TO EACH QUESTION. IF YOU NEED TO MAKE ADDITIONAL ENTRIES, CLICK THE "ADD AN ADDITIONAL ACTIVITIES ENTRY" BUTTON.**

Name _____	Relationship to Bidder/Offeror _____
Description of Activities _____ _____	
Duration of Engagement _____	Anticipated Cessation Date _____
Bidder/Offeror Contact Name _____	Contact Phone Number _____

Delete

**ADD AN ADDITIONAL ACTIVITIES ENTRY**

Certification: I, being duly sworn upon my oath, hereby represent that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I acknowledge: that I am authorized to execute this certification on behalf of the bidder; that the State of New Jersey is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the completion of any contracts with the State to notify the State in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the State, permitting the State to declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print): \_\_\_\_\_ Signature: \_\_\_\_\_

**Do Not Enter PIN as a Signature**

Title: \_\_\_\_\_ Date: \_\_\_\_\_

**AMERICANS WITH DISABILITIES ACT OF 1990**  
**Equal Opportunity for Individuals with Disability**

The contractor and the Board of Education (hereafter "owner") do hereby agree that the provisions of Title 11 of the Americans With Disabilities Act of 1990 (the "Act") (42 U.S.C. S121 01 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs, and activities provided or made available by public entities, and the rules and regulations promulgated pursuant there unto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the owner pursuant to this contract, the contractor agrees that the performance shall be in strict compliance with the Act. In the event that the contractor, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the contractor shall defend the owner in any action or administrative proceeding commenced pursuant to this Act. The contractor shall indemnify, protect, and save harmless the owner, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages, of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the owner's grievance procedure, the contractor agrees to abide by any decision of the owner which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against the owner, or if the owner incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the contractor shall satisfy and discharge the same at its own expense.

The owner shall, as soon as practicable after a claim has been made against it, give written notice thereof to the contractor along with full and complete particulars of the claim, If any action or administrative proceeding is brought against the owner or any of its agents, servants, and employees, the *owner shall* expeditiously forward or have forwarded to the contractor every demand, complaint, notice, summons, pleading, or other process received by the owner or its representatives.

It is expressly agreed and understood that any approval by the owner of the services provided by the contractor pursuant to this contract will not relieve the contractor of the obligation to comply with the Act and to defend, indemnify, protect, and save harmless the owner pursuant to this paragraph.

It is further agreed and understood that the owner assumes no obligation to indemnify or save harmless the contractor, its agents, servants, employees and subcontractors for any claim which may arise out of their performance of this Agreement. Furthermore, the contractor expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the contractor's obligations assumed in this Agreement, nor shall they be construed to relieve the contractor from any liability, nor preclude the owner from taking any other actions available to it under any other provisions of the Agreement or otherwise at law.

Name of Company \_\_\_\_\_

Authorized Agent \_\_\_\_\_

Title or Position \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_



## EQUIPMENT CERTIFICATION

Title of Bid: \_\_\_\_\_

Bid No. \_\_\_\_\_

Bid Date: \_\_\_\_\_  
(Weekday, Month 00, 20\_\_)

In accordance with N.J.S.A. 18A:18A-23, I hereby certify that

A) \_\_\_\_\_ (Name of Company) owns all the necessary equipment as required by the specifications and to complete the specified public work project.

**or**

B) \_\_\_\_\_ (Name of Company) leases or controls all the necessary equipment as required by the specifications and to complete the specified public work project.

**PLEASE NOTE:** If your company is not the actual owner of the equipment, **you shall submit with the bid**

1. A certificate stating the source from which the equipment will be obtained and
2. Obtain and submit with the bid a certificate from the owner and person in control of the equipment, definitely granting to the bidder the control of the equipment required during such time it may be necessary for the completion of that portion of the contract for which said equipment will be necessary.

Name of Company \_\_\_\_\_

Authorized Agent \_\_\_\_\_ Title \_\_\_\_\_

**Authorized Signature** \_\_\_\_\_

## Sworn Contractor Certification; Qualifications and Credentials

Pursuant to N.J.S.A. 18A:7G-37, a pre-qualified contractor seeking to bid school facilities projects, and any subcontractors, that are required to be named under N.J.S.A. 18A:7G-1 et seq. shall, as a condition of bidding, submit this Sworn Contractor Certification regarding qualifications and credentials.

I, \_\_\_\_\_, the principal owner or officer of the Bidder (or, the "Company"), certify that the forging statements are true and the firm has the following qualifications and credentials:

1. A current, valid certificate of registration issued pursuant to "The Public Works Contractor Registration Act," N.J.S.A. 34:11-56:48 et seq., a copy of which is submitted with this bid;
2. If a corporation or LLC formed under the laws of a state other than New Jersey, a current, valid "Certificate of Authority to perform work in New Jersey", a copy of which is submitted with this bid;
3. A current, valid, contractor or trade license required under applicable New Jersey Law for any specialty trade or specialty area in which the firm seeks to perform work, a copy of which is submitted with this bid;

I further certify that, during the term of the school facilities project, the Company will have in place a suitable quality control and quality assurance program and an appropriate safety and health plan.

I further certify that, at the time of bidding, the amount of the bid proposal and value of all of its outstanding incomplete contracts does not exceed the Company's existing aggregate rating limit.

Name of Company \_\_\_\_\_

Name of Owner or Officer \_\_\_\_\_

Signature of Owner or Officer \_\_\_\_\_

Notarized before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ Year  
Month

\_\_\_\_\_  
NOTARY PUBLIC SIGNATURE

\_\_\_\_\_  
Print Name of Notary Public

My commission expires \_\_\_\_\_, \_\_\_\_\_ Year  
Month Day

**-SEAL-**

***To be completed, signed, notarized and returned with bid.***

CERTIFICATION OF INSURANCE STATEMENT

The Bidder fully understands the Owner's insurance requirements as stated in the Supplementary Conditions and agrees to provide all insurance required by these documents at award of contract.

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COMPANY NAME

---

BIDDER (Signature)

---

BIDDER (Print Name)

**Note:** Failure to sign this document may result in the rejection of your Proposal.

CERTIFICATION OF INSURANCE STATEMENT

**EXHIBIT B**  
**MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE**  
**N.J.S.A. 10:5-31 et seq. (P.L.1975, c.127)**  
**N.J.A.C. 17:27-1.1 et seq.**  
**CONSTRUCTION CONTRACTS**

During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affection or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that the Dept. of LWD, Construction EEO Monitoring Program, may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B, and C, as long as the Dept. of LWD, construction EEO Monitoring Program is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Dept. of LWD, Construction EEO Monitoring Program, that its percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C 17:27-7.2. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

- (A) If the contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three business days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et seq., as supplemented and amended from time to time and the American with Disabilities Act. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union at least five business days prior to the commencement of construction work, the contractor or subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the contractor's or subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the contractor or subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and the contractor or subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.

**EXHIBIT B (Continued)**

- (B) If good faith efforts to meet targeted employment goals have not or cannot be met for each construction trade by adhering to the procedures of (A) above, or if the contractor does not have a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor agrees to take the following actions:
- 1) To notify the public agency compliance officer, the Dept. of LWD, Construction EEO Monitoring Program, and minority and women referral organizations listed by the Division pursuant to N.J.A.C. 17:27-5.3, of its workforce needs, and request referral of minority and women workers;
  - 2) To notify any minority and women workers who have been listed with it as awaiting available vacancies;
  - 3) Prior to commencement of work, to request that the local construction trade union refer minority and women workers to fill job openings, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade;
  - 4) To leave standing requests for additional referral to minority and women workers with the local construction trade union, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;
  - 5) If it is necessary to lay off some of the workers in a given trade on the construction site, layoffs shall be conducted in compliance with the equal employment opportunity and nondiscrimination standards set forth in this regulation, as well as with applicable Federal and State court decisions;
  - 6) To adhere to the following procedure when minority and women workers apply or are referred to the contractor or subcontractor:
    - i. The contractor or subcontractor shall interview the referred minority or women worker.
    - ii. If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the contractor or subcontractor shall in good faith determine the qualifications of such individuals. The contractor or subcontractor shall hire or schedule those individuals who satisfy appropriate qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a contractor or subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency, provided the referral agency is acceptable to the Dept. of LWD, Construction EEO Monitoring Program. If necessary, the contractor or subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.
    - iii. The name of any interested women or minority individual shall be maintained on a waiting list, and shall be considered for employment as described in (i) above, whenever vacancies occur. At the request of the Dept. of LWD, Construction EEO Monitoring Program, the contractor or subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.
    - iv. If, for any reason, said contractor or subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Dept. of LWD, Construction EEO Monitoring Program.
  - 7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Dept. of LWD, Construction EEO Monitoring Program upon request.
- (C) The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the contractor or subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the contractor or subcontractor shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall not be required to employ women and minority advanced trainees and trainees in numbers which

EXHIBIT B (Continued)

result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ration established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

After notification of award, but prior to signing a construction contract, the contractor shall submit to the public agency compliance officer and the Dept. of LWD, Construction EEO Monitoring Program an initial project workforce report (Form AA-201) electronically provided to the public agency by the Dept. of LWD, Construction EEO Monitoring Program, through its website, for distribution to and completion by the contractor, in accordance with N.J.A.C. 17:27-7. The contractor also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to the Dept. of LWD, Construction EEO Monitoring Program, and to the public agency compliance officer.

The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and/or off-the-job programs for outreach and training of minorities and women.

- (D) The contractor and its subcontractors shall furnish such reports or other documents to the Dept. of LWD, Construction EEO Monitoring Program as may be requested by the Dept. of LWD, Construction EEO Monitoring Program from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Dept. of LWD, Construction EEO Monitoring Program for conducting a compliance investigation pursuant to N.J.A.C. 17:27-1.1 et seq.

(Revised: January, 2016)

Reviewed By: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

SECTION 004541 – CERTIFICATION OF NON-DEPARTMENT FOR  
 FEDERAL GOVERNMENT CONTRACTS  
 N.J.S.A. 52:32-44.1 (P.L. 2019, c.406)

Public Works Contracts

Project No. \_\_\_\_\_ Title of Bid \_\_\_\_\_

This certification shall be completed, certified to, and submitted to the contracting unit **prior to contract award**, except for emergency contracts where submission is required prior to payment.

<b>PART I: VENDOR INFORMATION</b>	
Individual or Organization Name	
Address of Individual or Organization	
DUNS Code (if applicable)	
CAGE Code (if applicable)	
<b>Check the box that represents the type of business organization:</b>	

- Sole Proprietorship (skip Parts III and IV)   
  Non-Profit Corporation (skip Parts III and IV)  
 For-Profit Corporation (any type)   
  Limited Liability Company (LLC)   
  Partnership  
        Limited Partnership   
  Limited Liability Partnership (LLP)  
 Other (be specific): \_\_\_\_\_

<b>PART II – CERTIFICATION OF NON-DEBARMENT: Individual or Organization</b>			
I hereby certify that the <b>individual or organization listed above in Part I</b> is not debarred by the federal government from contracting with a federal agency. I further acknowledge: that I am authorized to execute this certification on behalf of the above- named organization; that the _____ ( <b>“OWNER”</b> ) is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the date of contract award by <b>“OWNER”</b> to notify the <b>“OWNER”</b> in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the <b>“OWNER”</b> , permitting the <b>“OWNER”</b> to declare any contract(s) resulting from this certification void and unenforceable.			
Full Name (Print):		Title:	
Signature:		Date:	

**PART III – CERTIFICATION OF NON-DEBARMENT: Individual or Entity Owning Greater than 50 Percent of Organization**

**Section A (Check the Box that applies)**

<input type="checkbox"/>	Below is the name and address of the stockholder in the corporation who owns more than 50 percent of its voting stock, or of the partner in the partnership who owns more than 50 percent interest therein, or of the member of the limited liability company owning more than 50 percent interest therein, as the case may be.
<b>Name of Individual or Organization</b>	
<b>Home Address (for Individual) or Business Address</b>	
<b>OR</b>	
<input type="checkbox"/>	No one stockholder in the corporation owns more than 50 percent of its voting stock, or no partner in the partnership owns more than 50 percent interest therein, or no member in the limited liability company owns more than 50 percent interest therein, as the case may be.

**Section B (Skip if no Business entity is listed in Section A above)**

<input type="checkbox"/>	Below is the name and address of the stockholder in the corporation who owns more than 50 percent of the voting stock of the organization's parent entity, or of the partner in the partnership who owns more than 50 percent interest in the organization's parent entity, or of the member of the limited liability company owning more than 50 percent interest in organization's parent entity, as the case may be.
<b>Stockholder/Partner/Member Owning Greater Than 50 Percent of Parent Entity</b>	
<b>Home Address (for Individual) or Business Address</b>	
<b>OR</b>	
<input type="checkbox"/>	No one stockholder in the parent entity corporation owns more than 50 percent of its voting stock, no partner in the parent entity partnership owns more than 50 percent interest therein, or no member in the parent entity limited liability company owns more than 50 percent interest therein, as the case may be.



**Section C – Part III Certification**

I hereby certify that no individual or organization that is debarred by the federal government from contracting with a federal agency owns greater than 50 percent of the **Organization listed above in Part I** or, if applicable, owns greater than 50 percent of a parent entity of \_\_\_\_\_ (***name of organization***). I further acknowledge: that I am authorized to execute this certification on behalf of the above-named organization; that the (“**OWNER**”) is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the date of contract award “**OWNER**” to notify the “**OWNER**” in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the “**OWNER**”, permitting the “**OWNER**” to declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print):		Title:	
Signature:		Date:	

**Part IV – CERTIFICATION OF Non-Debarment: Contractor – Controlled Entities**

**Section A**

Below is the name and address of the corporation(s) in which the **Organization listed in Part I** owns more than 50 percent of voting stock, or of the partnership(s) in which the **Organization listed in Part I** owns more than 50 percent interest therein, or of the limited liability company or companies in which the **Organization listed above in Part I** owns more than 50 percent interest therein, as the case may be.

**Name of Business Entity**

**Business Address**

Name of Business Entity	Business Address

\*\*Add additional sheets if necessary\*\*

**OR**

The **Organization listed above in Part I** does not own greater than 50 percent of the voting stock in any corporation and does not own greater than 50 percent interest in any partnership or any limited liability company.

<b>Section B (skip if no business entities are listed in Section A of Part IV)</b>	
<input type="checkbox"/>	Below are the names and addresses of any entities in which an entity listed in Part III A owns greater than 50 percent of the voting stock (corporation) or owns greater than 50 percent interest (partnership or limited liability company).
<b>Name of Business Entity Controlled by Entity Listed in Section A of Part IV</b>	<b>Business Address</b>
**Add additional Sheets if necessary**	
<b>OR</b>	
<input type="checkbox"/>	No entity listed in Part III A owns greater than 50 percent of the voting stock in any corporation or owns greater than 50 percent interest in any partnership or limited liability company.

<b>Section C – Part IV Certification of Non-Debarment</b>			
<p>I hereby certify that the <b>Organization listed above in Part I</b> does not own greater than 50 percent of any entity that that is debarred by the federal government from contracting with a federal agency and, if applicable, does not own greater than 50 percent of any entity that in turns owns greater than 50 percent of any entity debarred by the federal government from contracting with a federal agency. I further acknowledge: that I am authorized to execute this certification on behalf of the above-named organization; that the (“<b>OWNER</b>”) is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the date of contract award by “<b>OWNER</b>” to notify “<b>OWNER</b>” in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the “<b>OWNER</b>”, permitting the “<b>OWNER</b>” to declare any contract(s) resulting from this certification void and unenforceable.</p>			
Full Name (Print):		Title:	
Signature:		Date:	

**Surety Disclosure Statement and Certification**  
N.J.S. A. 2A:44-143

**SAMPLE**

SURETY DISCLOSURE STATEMENT AND CERTIFICATION

....., surety(ies) on the attached bond, hereby certifies(y) the following:

(1) The surety meets the applicable capital and surplus requirements of N.J.S.A.17:17-6 or N.J.S.A. 17:17-7 as of the surety's most current annual filing with the New Jersey Department of Insurance.

(2) The capital (where applicable) and surplus, as determined in accordance with the applicable laws of this State, of the surety(ies) participating in the issuance of the attached bond is (are) in the following amount(s) as of the calendar year ended December 31, ..... (most recent calendar year for which capital and surplus amounts are available), which amounts have been certified as indicated by certified public accountants (indicating separately for each surety that surety's capital and surplus amounts, together with the name and address of the firm of certified public accounts that shall have certified those amounts):

.....  
.....  
.....

(3) (a) With respect to each surety participating in the issuance of the attached bond that has received from the United States Secretary of the Treasury a certificate of authority pursuant to 31 U.S.C. 9305, the underwriting limitation established therein and the date as of which that limitation was effective is as follows (indicating for each such surety that surety's underwriting limitation and the effective date thereof):

.....  
.....  
.....

(b) With respect to each surety participating in the issuance of the attached bond that has not received such a certificate of authority from the United States Secretary of the Treasury, the underwriting limitation of that surety as established pursuant to N.J.S.A. 17:18-9 as of (date on which such limitation was so established) is as follows (indicating for each such surety that surety's underwriting limitation and the date on which that limitation was established):

.....  
.....  
.....

(4) The amount of the bond to which this statement and certification is attached is \$.....

(5) If, by virtue of one or more contracts of reinsurance, the amount of the bond indicated under item (4) above exceeds the total underwriting limitation of all sureties on the bond as set forth in items (3)(a) or (3)(b) above, or both, then for each such contract of reinsurance:

(a) The name and address of each such reinsurer under that contract and the amount of that reinsurer's participation in the contract is as follows:.....

.....

.....

.....; and

(b) Each surety that is party to any such contract of reinsurance certifies that each reinsurer listed under item (5)(a) satisfies the credit for reinsurance requirement established under NJSA 17:51B-1 et seq. and any applicable regulations in effect as of the date on which the bond to which this statement and certification is attached shall have been filed with the appropriate public agency.

### CERTIFICATE

(to be completed by an authorized certifying agent

for each surety on the bond)

I ..... (name of agent), as ..... (title of agent) for ..... (name of surety), a corporation/mutual insurance company/other (indicating type of business organization) (circle one) domiciled in ..... (state of domicile), DO HEREBY CERTIFY that, to the best of my knowledge, the foregoing statements made by me are true, and ACKNOWLEDGE that, if any of those statements are false, this bond is VOIDABLE.

.....

(Signature of certifying agent)

.....

(Printed name of certifying agent)

.....

(Title of certifying agent)

# PERFORMANCE BOND

Bond No. \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned \_\_\_\_\_ as PRINCIPAL and sureties with underwriting office at \_\_\_\_\_ to which all communication in regard to this bond should be addressed, a Corporation organized and existing under the laws of the State of \_\_\_\_\_ and duly authorized to do business in the state of New Jersey, as SURETY, are hereby held and firmly bound unto the \_\_\_\_\_ in the penal sum of \_\_\_\_\_, for payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

SIGNED and SEALED this \_\_\_\_\_ day of \_\_\_\_\_ two thousand and \_\_\_\_\_.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT, WHEREAS, the above named Principal did on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, entered into a contract with \_\_\_\_\_ identified as \_\_\_\_\_ which said contract, upon execution by the Owner, and the Principal, will be a part of this bond the same as though set forth herein.

Now, if the said Principal shall well and faithfully do and perform each and every, all and singular, the things agreed by it (or them) to be done and performed according to the terms of said contract, and shall pay all lawful claims of beneficiaries as defined by N.J.S.2A:44-143 for labor performed or materials, provisions, provender or other supplies or teams, fuels, oils, implements or machinery furnished, used or consumed in the carrying forward, performing or completing of said contract, we agreeing and assenting that this undertaking shall be for the benefit of any beneficiary as defined in N.J.S.2A:44-143 having a just claim, as well as for the oblige herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said Surety hereby stipulated and agrees that no modifications, omissions or additions in or to the terms of the said contract, or in or to the plans or specifications therefore, shall in anyway affect the obligations of said Surety on its bond.

Recovery of any claimant under the bond shall be subject to the conditions and provisions of this article to the same extent as if such conditions and provisions were fully incorporated in the form set forth above.

## Principal:

By: \_\_\_\_\_  
Print Name:  
Print Title:

Affix  
Corporate  
Seal

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Print or Type Name

## Surety:

By: \_\_\_\_\_  
Print Name:  
Print Title:

Affix  
Corporate  
Seal

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Print or Type Name

**PAYMENT BOND**

Bond No. \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned \_\_\_\_\_ as PRINCIPAL and sureties with underwriting office at \_\_\_\_\_ to which all communication in regard to this bond should be addressed, a Corporation organized and existing under the laws of the State of \_\_\_\_\_ and duly authorized to do business in the state of New Jersey, as SURETY, are hereby held and firmly bound unto the \_\_\_\_\_ in the penal sum of \_\_\_\_\_, for payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

SIGNED and SEALED this \_\_\_\_\_ day of \_\_\_\_\_ two thousand and \_\_\_\_\_.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT, WHEREAS, the above named Principal did on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, entered into a contract with \_\_\_\_\_ identified as \_\_\_\_\_ which said contract, upon execution by the Owner, and the Principal, will be a part of this bond the same as though set forth herein.

Now, if the said Principal shall pay all lawful claims of beneficiaries as defined by N.J.S.2A:44-143 for labor performed or materials, provisions, provender or other supplies or teams, fuels, oils, implement or machinery furnished, used or consumed in carrying forward, performing or completing of said contract, we agreeing and assenting that this undertaking shall be for the benefit of any beneficiary as defined in N.J.S.2A;44-143 having a just claim, as well as for the party of the first part mentioned in the contract aforesaid; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

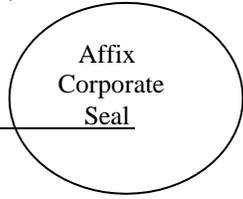
The said Surety hereby stipulated and agrees that no modifications, omissions or additions in or to the terms of the said contract, or in or to the plans or specifications therefore, shall in anyway affect the obligations of said Surety on its bond.

**Principal:**

By: \_\_\_\_\_

Print Name:

Print Title:



\_\_\_\_\_  
Witness

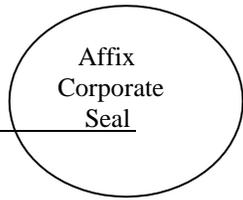
\_\_\_\_\_  
Print or Type Name

**Surety:**

By: \_\_\_\_\_

Print Name:

Print Title:



\_\_\_\_\_  
Witness

\_\_\_\_\_  
Print or Type Name

**MAINTENANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned,

\_\_\_\_\_  
as principal, and \_\_\_\_\_ a Corporation organized and existing under the laws of the state of \_\_\_\_\_, and duly authorized to do business in the State of New Jersey, as Surety, are held and firmly bound unto the \_\_\_\_\_ as Owner, in the penal sum of \_\_\_\_\_

\_\_\_\_\_  
(10% of the Final Contract Amount)

for payment of which, well and truly to be made, we hereby, jointly, and severally, bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, That whereas the above named principal did on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, enter into a Contract with the Owner for \_\_\_\_\_

\_\_\_\_\_  
(Project Name)

which said Contract is made a part of this bond the same as though set forth herein.

NOW, if the said principal shall remedy without cost to the Owner any defects which may develop during the one (1) year Maintenance Period of the work performed under the said Contract, provided such defects, in the judgment of the Owner are caused by defective or inferior materials or workmanship, then this obligation shall be void, otherwise it shall be and remain in full force and effect. The one (1) year period shall commence on the date established in the Certificate of Substantial Completion.

The said Surety hereby stipulates and agrees that no modifications, deletions or additions in or to the terms of the said Contract or the plans or specifications therefor shall in any way affect its obligations on this bond.

Signed and Sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
(Principal) (Seal)

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Surety) (Seal)

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Title)



# STATE OF NEW JERSEY

DEPARTMENT OF LABOR & WORKFORCE DEVELOPMENT  
CONSTRUCTION EEO COMPLIANCE MONITORING PROGRAM

Assignment

Code

FORM AA-201

Revised 11/11

## INITIAL PROJECT WORKFORCE REPORT CONSTRUCTION

For instructions on completing the form, go to: [http://www.state.nj.us/treasury/contract\\_compliance/pdf/aa201ins.pdf](http://www.state.nj.us/treasury/contract_compliance/pdf/aa201ins.pdf)

1. FID NUMBER		2. CONTRACTOR ID NUMBER		5. NAME AND ADDRESS OF PUBLIC AGENCY AWARDDING CONTRACT Name: Address:							
3. NAME AND ADDRESS OF PRIME CONTRACTOR  (Name)  (Street Address)  (City) (State) (Zip Code)				CONTRACT NUMBER			DATE OF AWARD		DOLLAR AMOUNT OF AWARD		
4. IS THIS COMPANY MINORITY OWNED [ ] OR WOMAN OWNED [ ]				6. NAME AND ADDRESS OF PROJECT Name: Address:				7. PROJECT NUMBER			
9. TRADE OR CRAFT				COUNTY				8. IS THIS PROJECT COVERED BY A PROJECT LABOR AGREEMENT (PLA)? YES <input type="checkbox"/>			
		PROJECTED TOTAL EMPLOYEES				PROJECTED MINORITY EMPLOYEES				PROJECTED PHASE - IN DATE	PROJECTED COMPLETION DATE
		MALE		FEMALE		MALE		FEMALE			
		J	AP	J	AP	J	AP	J	AP		
1. ASBESTOS WORKER											
2. BRICKLAYER OR MASON											
3. CARPENTER											
4. ELECTRICIAN											
5. GLAZIER											
6. HVAC MECHANIC											
7. IRONWORKER											
8. OPERATING ENGINEER											
9. PAINTER											
10. PLUMBER											
11. ROOFER											
12. SHEET METAL WORKER											
13. SPRINKLER FITTER											
14. STEAMFITTER											
15. SURVEYOR											
16. TILER											
17. TRUCK DRIVER											
18. LABORER											
19. OTHER											
20. OTHER											

I hereby certify that the foregoing statements made by me are true. I am aware that if any of the foregoing statements are willfully false, I am subject to punishment.

(Signature)

10. (Please Print Your Name)

(Title)

(Area Code)

(Telephone Number)

(Ext.)

(Date)

# State Of New Jersey

Department of Labor & Workforce Development  
Construction EEO Compliance Monitoring Program

**MONTHLY PROJECT WORKFORCE REPORT - CONSTRUCTION**

For instructions on completing the form, go to: <a href="http://www.state.nj.us/treasury/contract_compliance/pdf/aa202ins.pdf">http://www.state.nj.us/treasury/contract_compliance/pdf/aa202ins.pdf</a>		<b>3. F ID or SS Number</b>	
1. Name and address of Prime Contractor  (NAME)	<b>2. Contractor ID Number</b>	<b>4. Reporting Period</b>	
(ADDRESS)		<b>5. Public Agency Awarding Contract</b>	
(CITY) (STATE) (ZIP CODE)		<b>6. Name and Location of Project</b>	<b>County</b>
		<b>7. Project ID Number</b>	

8. CONTRACTOR NAME (LIST PRIME CONTRACTOR WITH SUBS FOLLOWING)	9. PERCENT OF WORK COMPLETED	10. TRADE OR CRAFT	CLASSIFICATION (SEE REVERSE)	11. NUMBER OF EMPLOYEES						12. TOTAL	13. WORK HOURS				14. % OF WORK HRS		15. CUM. WORK HRS			16. CUM. % OF W/H	
				A.	B.	C.	D.	E.	F.	NO. OF	TOTAL	A.	B.	A.	B.	TOTAL	A.	B.	A.	B.	
				TOTAL	BLACK	HISPANIC	AMERICAN INDIAN	ASIAN	FEMALES	MIN. EMP.	WORK HOURS	MIN. W/H	FEMALE W/H	% OF MIN. W/H	% OF FEMALE W/H	WORK HOURS	MIN. HOURS	FEMALE HOURS	% OF MIN. W/H	% OF FEM. W/H	
			J																		
			AP																		
			J																		
			AP																		
			J																		
			AP																		
			J																		
			AP																		

17. COMPLETED BY (PRINT OR TYPE)

(NAME) (SIGNATURE) (TITLE)

(AREA CODE) (TELEPHONE NUMBER) (EXT.) (DATE)

# AIA<sup>®</sup> Document A101<sup>™</sup> – 2017

## **Standard Form of Agreement Between Owner and Contractor** where the basis of payment is a Stipulated Sum

AGREEMENT made as of the    day of    in the year  
(In words, indicate day, month and year.)

BETWEEN the Owner:  
(Name, legal status, address and other information)

and the Contractor:  
(Name, legal status, address and other information)

for the following Project:  
(Name, location and detailed description)

The Architect:  
(Name, legal status, address and other information)

Fraytak Veisz Hopkins Duthie, P.C.  
1515 Lower Ferry Road  
Trenton, NJ 08618

The Owner and Contractor agree as follows.

**ADDITIONS AND DELETIONS:**  
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101<sup>™</sup>-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201<sup>™</sup>-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

Init.

**TABLE OF ARTICLES**

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS

**EXHIBIT A INSURANCE AND BONDS**

**ARTICLE 1 THE CONTRACT DOCUMENTS**

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

**ARTICLE 2 THE WORK OF THIS CONTRACT**

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

**ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**

§ 3.1 The date of commencement of the Work shall be:

*(Check one of the following boxes.)*

- The date of this Agreement.
- A date set forth in a notice to proceed issued by the Owner/Architect.
- Established as follows:  
*(Insert a date or a means to determine the date of commencement of the Work.)*

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

*(Paragraph deleted)*

§

**§ 3.3 Substantial Completion**

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

*(Check one of the following boxes and complete the necessary information.)*

Init.

[ ] Not later than ( ) calendar days from the date of commencement of the Work.

[ X ] By the following date: as shown in specification section 01800

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date
-----------------	-----------------------------

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

#### ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be (\$ ), subject to additions and deductions as provided in the Contract Documents.

#### § 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
------	-------

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement. (Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance
------	-------	---------------------------

§ 4.3 Allowances, if any, included in the Contract Sum:  
(Identify each allowance.)

Item	Price
------	-------

§ 4.4 Unit prices, if any:  
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 4.5 Liquidated damages, if any:  
(Insert terms and conditions for liquidated damages, if any.)

Liquidated damages to be assessed in accordance with Specification Section 01800 - Time of Completion and liquidated Damages.

§ 4.6 Other:  
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

## ARTICLE 5 PAYMENTS

### § 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the fifteenth day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the fifteenth day of the following month..

*(Federal, state or local laws may require payment within a certain period of time.)*

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

### § 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

*(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)*

Two percent (2%) of the amount due on each partial payment shall be withheld when the outstanding balance of the contract exceeds \$500,000, and five percent (5%) of the amount due on each partial payment shall be withheld when the outstanding balance of the contract is \$500,000 or less.

Init.

**§ 5.1.7.1.1** The following items are not subject to retainage:  
*(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)*

**§ 5.1.7.2** Reduction or limitation of retainage, if any, shall be as follows:  
*(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)*

5% of the amount due on each partial payment shall be withheld when the outstanding balance of the contract is \$500,000 or less.

**§ 5.1.7.3** Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:  
*(Insert any other conditions for release of retainage upon Substantial Completion.)*

Five percent (5%) of the amount due on each partial payment shall be retained when the outstanding balance of the contract is \$500,000 or less until final completion and acceptance of all work covered by the Contract, including the completion of all corrective or punch list items.

**§ 5.1.8** If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

**§ 5.1.9** Except with the Owner’s prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

## **§ 5.2 Final Payment**

**§ 5.2.1** Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor’s responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

**§ 5.2.2** The Owner’s final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect’s final Certificate for Payment, or as follows:

## **§ 5.3 Interest**

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.  
*(Insert rate of interest agreed upon, if any.)*

%

## **ARTICLE 6 DISPUTE RESOLUTION**

### **§ 6.1 Initial Decision Maker**

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.  
*(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)*

**§ 6.2 Binding Dispute Resolution**

For any Claim, the method of binding dispute resolution shall be as follows:

*(Check the appropriate box.)*

- Arbitration pursuant to Section 15.4 of AIA Document A201–2017
- Litigation in a NJ Court of Law
- Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

**ARTICLE 7 TERMINATION OR SUSPENSION**

**§ 7.1** The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

**§ 7.1.1** If the Contract is terminated for the Owner’s convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

*(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner’s convenience.)*

**§ 7.2** The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

**ARTICLE 8 MISCELLANEOUS PROVISIONS**

**§ 8.1** Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

*(Name, address, email address, and other information)*

*(Name, address, email address, and other information)*



*(Paragraphs deleted)*

**§ 8.5 Insurance and Bonds**

**§ 8.5.1** The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

**§ 8.5.2** The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

**§ 8.6** Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

*(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)*

**§ 8.7 Other provisions:**

8.7.1 A condition of this Agreement is that the Contractor will comply with all applicable governmental laws and regulations including, but without limitation, those set forth in Section 00860 of the Specifications, which are hereby incorporated by reference as if set forth herein at length.

**ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS**

**§ 9.1** This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds
- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction

*(Paragraphs deleted)*

**.5 Drawings**

Number	Title	Date
--------	-------	------

**.6 Specifications**

Section	Title	Date	Pages
---------	-------	------	-------

**.7 Addenda, if any:**

Number	Date	Pages
--------	------	-------

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

**.8 Other Exhibits:**

*(Check all boxes that apply and include appropriate information identifying the exhibit where required.)*

AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:

Init.

(Insert the date of the E204-2017 incorporated into this Agreement.)

[ ] The Sustainability Plan:

Title	Date	Pages
-------	------	-------

[ ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
----------	-------	------	-------

.9 Other documents, if any, listed below:

*(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™-2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)*

This Agreement entered into as of the day and year first written above.

\_\_\_\_\_  
OWNER (Signature)

\_\_\_\_\_  
CONTRACTOR (Signature)

\_\_\_\_\_  
(Printed name and title)

\_\_\_\_\_  
(Printed name and title)

# AIA<sup>®</sup> Document A101<sup>™</sup> – 2017 Exhibit A

## **Insurance and Bonds**

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the day of in the year  
*(In words, indicate day, month and year.)*

for the following PROJECT:  
*(Name and location or address)*

**THE OWNER:**  
*(Name, legal status and address)*

**THE CONTRACTOR:**  
*(Name, legal status and address)*

### TABLE OF ARTICLES

- A.1 GENERAL
- A.2 OWNER'S INSURANCE
- A.3 CONTRACTOR'S INSURANCE AND BONDS
- A.4 SPECIAL TERMS AND CONDITIONS

#### ARTICLE A.1 GENERAL

The Owner and Contractor shall purchase and maintain insurance, and provide bonds, as set forth in this Exhibit. As used in this Exhibit, the term General Conditions refers to AIA Document A201<sup>™</sup>-2017, General Conditions of the Contract for Construction.

#### ARTICLE A.2 OWNER'S INSURANCE

##### § A.2.1 General

Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Article A.2 and, upon the Contractor's request, provide a copy of the property insurance policy or policies required by Section A.2.3. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

##### § A.2.2 Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual general liability insurance.

#### ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Document A201<sup>™</sup>-2017, General Conditions of the Contract for Construction. Article 11 of A201<sup>™</sup>-2017 contains additional insurance provisions.

Init.

**§ A.2.3 Required Property Insurance**

**§ A.2.3.1** Unless this obligation is placed on the Contractor pursuant to Section A.3.3.2.1, the Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section A.2.3.1.3, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

**§ A.2.3.1.1 Causes of Loss.** The insurance required by this Section A.2.3.1 shall provide coverage for direct physical loss or damage, and shall not exclude the risks of fire, explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, design, specifications, workmanship, or materials. Sub-limits, if any, are as follows:

*(Indicate below the cause of loss and any applicable sub-limit.)*

Causes of Loss	Sub-Limit
----------------	-----------

**§ A.2.3.1.2 Specific Required Coverages.** The insurance required by this Section A.2.3.1 shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup. The insurance shall also cover debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Sub-limits, if any, are as follows:

*(Indicate below type of coverage and any applicable sub-limit for specific required coverages.)*

Coverage	Sub-Limit
----------	-----------

**§ A.2.3.1.3** Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section A.2.3.1 or, if necessary, replace the insurance policy required under Section A.2.3.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 12.2.2 of the General Conditions.

**§ A.2.3.1.4 Deductibles and Self-Insured Retentions.** If the insurance required by this Section A.2.3 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

**§ A.2.3.2 Occupancy or Use Prior to Substantial Completion.** The Owner's occupancy or use of any completed or partially completed portion of the Work prior to Substantial Completion shall not commence until the insurance company or companies providing the insurance under Section A.2.3.1 have consented in writing to the continuance of coverage. The Owner and the Contractor shall take no action with respect to partial occupancy or use that would cause cancellation, lapse, or reduction of insurance, unless they agree otherwise in writing.

**§ A.2.3.3 Insurance for Existing Structures**

If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage from the causes of loss identified in Section A.2.3.1, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

**§ A.2.4 Optional Extended Property Insurance.**

The Owner shall purchase and maintain the insurance selected and described below.

Init.

*(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. For each type of insurance selected, indicate applicable limits of coverage or other conditions in the fill point below the selected item.)*

- § A.2.4.1 **Loss of Use, Business Interruption, and Delay in Completion Insurance**, to reimburse the Owner for loss of use of the Owner's property, or the inability to conduct normal operations due to a covered cause of loss.
  
- § A.2.4.2 **Ordinance or Law Insurance**, for the reasonable and necessary costs to satisfy the minimum requirements of the enforcement of any law or ordinance regulating the demolition, construction, repair, replacement or use of the Project.
  
- § A.2.4.3 **Expediting Cost Insurance**, for the reasonable and necessary costs for the temporary repair of damage to insured property, and to expedite the permanent repair or replacement of the damaged property.
  
- § A.2.4.4 **Extra Expense Insurance**, to provide reimbursement of the reasonable and necessary excess costs incurred during the period of restoration or repair of the damaged property that are over and above the total costs that would normally have been incurred during the same period of time had no loss or damage occurred.
  
- § A.2.4.5 **Civil Authority Insurance**, for losses or costs arising from an order of a civil authority prohibiting access to the Project, provided such order is the direct result of physical damage covered under the required property insurance.
  
- § A.2.4.6 **Ingress/Egress Insurance**, for loss due to the necessary interruption of the insured's business due to physical prevention of ingress to, or egress from, the Project as a direct result of physical damage.
  
- § A.2.4.7 **Soft Costs Insurance**, to reimburse the Owner for costs due to the delay of completion of the Work, arising out of physical loss or damage covered by the required property insurance: including construction loan fees; leasing and marketing expenses; additional fees, including those of architects, engineers, consultants, attorneys and accountants, needed for the completion of the construction, repairs, or reconstruction; and carrying costs such as property taxes, building permits, additional interest on loans, realty taxes, and insurance premiums over and above normal expenses.

**§ A.2.5 Other Optional Insurance.**

The Owner shall purchase and maintain the insurance selected below.

*(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance.)*

- § A.2.5.1 **Cyber Security Insurance** for loss to the Owner due to data security and privacy breach,

Int.

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User Notes:

(1664046712)

including costs of investigating a potential or actual breach of confidential or private information.  
(Indicate applicable limits of coverage or other conditions in the fill point below.)

[ ] § A.2.5.2 Other Insurance

(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

Coverage

Limits

**ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS**

**§ A.3.1 General**

**§ A.3.1.1 Certificates of Insurance.** The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Article A.3 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of commercial liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the periods required by Section A.3.2.1 and Section A.3.3.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy or policies.

**§ A.3.1.2 Deductibles and Self-Insured Retentions.** The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

**§ A.3.1.3 Additional Insured Obligations.** To the fullest extent permitted by law, the Contractor shall cause the commercial general liability coverage to include (1) the Owner, the Architect, and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's consultants, CG 20 32 07 04.

**§ A.3.2 Contractor's Required Insurance Coverage**

**§ A.3.2.1** The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

*(If the Contractor is required to maintain insurance for a duration other than the expiration of the period for correction of Work, state the duration.)*

**§ A.3.2.2 Commercial General Liability**

**§ A.3.2.2.1** Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than one million dollars (\$ 1,000,000.00 ) each occurrence, two million dollars (\$ 2,000,000.00 ) general aggregate, and two million (\$ 2,000,000.00 ) aggregate for products-completed operations hazard, providing coverage for claims including

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal injury and advertising injury;
- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and

- .5 the Contractor's indemnity obligations under Section 3.18 of the General Conditions.
- .6 the policy shall name the Owner, Architect, Construction Manager and their Consultants, Agents and Employees as additional insured.

§ A.3.2.2.2 The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an exclusion or restriction of coverage for the following:

- .1 Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
- .2 Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
- .3 Claims for bodily injury other than to employees of the insured.
- .4 Claims for indemnity under Section 3.18 of the General Conditions arising out of injury to employees of the insured.
- .5 Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
- .6 Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
- .7 Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
- .8 Claims related to roofing, if the Work involves roofing.
- .9 Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.
- .10 Claims related to earth subsidence or movement, where the Work involves such hazards.
- .11 Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

§ A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than one million dollars (\$ 1,000,000.00 ) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

§ A.3.2.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as the coverages required under Section A.3.2.2 and A.3.2.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ A.3.2.5 Workers' Compensation at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than five hundred thousand dollars (\$ 500,000.00 ) each accident, five hundred thousand dollars (\$ 500,000.00 ) each employee, and five hundred thousand dollars (\$ 500,000.00 ) policy limit.

§ A.3.2.7 Jones Act, and the Longshore & Harbor Workers' Compensation Act, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and docks

§ A.3.2.8 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate.

§ A.3.2.9 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate.

§ A.3.2.10 Coverage under Sections A.3.2.8 and A.3.2.9 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate.

§ A.3.2.11 Insurance for maritime liability risks associated with the operation of a vessel, if the Work requires such activities, with policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate.

§ A.3.2.12 Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate.

**§ A.3.3 Contractor's Other Insurance Coverage**

§ A.3.3.1 Insurance selected and described in this Section A.3.3 shall be purchased from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

*(If the Contractor is required to maintain any of the types of insurance selected below for a duration other than the expiration of the period for correction of Work, state the duration.)*

§ A.3.3.2 The Contractor shall purchase and maintain the following types and limits of insurance in accordance with Section A.3.3.1.

*(Select the types of insurance the Contractor is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. Where policy limits are provided, include the policy limit in the appropriate fill point.)*

§ A.3.3.2.1 Property insurance of the same type and scope satisfying the requirements identified in Section A.2.3, which, if selected in this section A.3.3.2.1, relieves the Owner of the responsibility to purchase and maintain such insurance except insurance required by Section A.2.3.1.3 and Section A.2.3.3. The Contractor shall comply with all obligations of the Owner under Section A.2.3 except to the extent provided below. The Contractor shall disclose to the Owner the amount of any deductible, and the Owner shall be responsible for losses within the deductible. Upon request, the Contractor shall provide the Owner with a copy of the property insurance policy or policies required. The Owner shall adjust and settle the loss with the insurer and be the trustee of the proceeds of the property insurance in accordance with Article 11 of the General Conditions unless otherwise set forth below:

*(Where the Contractor's obligation to provide property insurance differs from the Owner's obligations as described under Section A.2.3, indicate such differences in the space below. Additionally, if a party other than the Owner will be responsible for adjusting and settling a loss with the insurer and acting as the trustee of the proceeds of property insurance in accordance with Article 11 of the General Conditions, indicate the responsible party below.)*

§ A.3.3.2.2 **Railroad Protective Liability Insurance**, with policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate, for Work within fifty (50) feet of railroad property.

§ A.3.3.2.3 **Asbestos Abatement Liability Insurance**, with policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate, for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos-containing materials.

§ A.3.3.2.4 Insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.

§ A.3.3.2.5 Property insurance on an "all-risks" completed value form, covering property owned by the Contractor and used on the Project, including scaffolding and other equipment.

§ A.3.3.2.6 **Other Insurance**  
*(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)*

Init.



Coverage

Limits

§ A.3.4 Performance Bond and Payment Bond

The Contractor shall provide surety bonds, from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located, as follows:

*(Specify type and penal sum of bonds.)*

Type	Penal Sum (\$0.00)
Payment Bond	Amount equal to the Contract Sum
Performance Bond	Amount equal to the Contract Sum

Payment and Performance Bonds shall be AIA Document A312™, Payment Bond and Performance Bond, or contain provisions identical to AIA Document A312™, current as of the date of this Agreement.

ARTICLE A.4 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Insurance and Bonds Exhibit, if any, are as follows:

Init.

**PART 1 - CONTRACT CONDITIONS AND GENERAL REQUIREMENTS**

**SECTION 00700 - GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION  
AIA DOCUMENT A201 - 2017**



# AIA<sup>®</sup> Document A201<sup>™</sup> – 2017

## General Conditions of the Contract for Construction

for the following PROJECT:  
(Name and location or address)

**THE OWNER:**  
(Name, and address)

**THE ARCHITECT:**  
(Name, and address)

Fraytak Veisz Hopkins Duthie, P.C. Architects - Planners  
1515 Lower Ferry Road, Trenton, NJ 08618

### TABLE OF ARTICLES

- 1 GENERAL PROVISIONS
- 2 OWNER
- 3 CONTRACTOR
- 4 ARCHITECT
- 5 SUBCONTRACTORS
- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
- 7 CHANGES IN THE WORK
- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

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This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503<sup>™</sup>, Guide for Supplementary Conditions.

Init.

## INDEX

(Topics and numbers in bold are Section headings.)

### Acceptance of Nonconforming Work

9.6.6, 9.9.3, 12.3

### Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3

### Access to Work

3.16, 6.2.1, 12.1

### Accident Prevention

10

### Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,

10.2.8, 13.3.2, 14.1, 15.1.2, 15.2

### Addenda

1.1.1

### Additional Costs, Claims for

3.7.4, 3.7.5, 10.3.2, 15.1.5

### Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, 13.4

### Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, 15.1.6

### Administration of the Contract

3.1.3, 4.2, 9.4, 9.5

### Advertisement or Invitation to Bid

1.1.1

### Aesthetic Effect

4.2.13

### Allowances

3.8

### Applications for Payment

4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5.1, 9.5.4, 9.6.3, 9.7, 9.10

### Approvals

2.1.1, 2.3.1, 2.5, 3.1.3, 3.10.2, 3.12.8, 3.12.9,

3.12.10.1, 4.2.7, 9.3.2, 13.4.1

### Arbitration

8.3.1, 15.3.2, 15.4

### ARCHITECT

4

### Architect, Definition of

4.1.1

### Architect, Extent of Authority

2.5, 3.12.7, 4.1.2, 4.2, 5.2, 6.3, 7.1.2, 7.3.4, 7.4, 9.2,

9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,

13.4.1, 13.4.2, 14.2.2, 14.2.4, 15.1.4, 15.2.1

### Architect, Limitations of Authority and

### Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2,

4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4,

9.4.2, 9.5.4, 9.6.4, 15.1.4, 15.2

### Architect's Additional Services and Expenses

2.5, 12.2.1, 13.4.2, 13.4.3, 14.2.4

### Architect's Administration of the Contract

3.1.3, 3.7.4, 15.2, 9.4.1, 9.5

### Architect's Approvals

2.5, 3.1.3, 3.5, 3.10.2, 4.2.7

### Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

### Architect's Copyright

1.1.7, 1.5

### Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,

7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,

13.4.2, 15.2

### Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.4

### Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.4.2

### Architect's Interpretations

4.2.11, 4.2.12

### Architect's Project Representative

4.2.10

### Architect's Relationship with Contractor

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2,

3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16,

3.18, 4.1.2, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,

9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.3.2, 13.4, 15.2

### Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3

### Architect's Representations

9.4.2, 9.5.1, 9.10.1

### Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4

### Asbestos

10.3.1

### Attorneys' Fees

3.18.1, 9.6.8, 9.10.2, 10.3.3

### Award of Separate Contracts

6.1.1, 6.1.2

### Award of Subcontracts and Other Contracts for

### Portions of the Work

5.2

### Basic Definitions

1.1

### Bidding Requirements

1.1.1

### Binding Dispute Resolution

8.3.1, 9.7, 11.5, 13.1, 15.1.2, 15.1.3, 15.2.1, 15.2.5,

15.2.6.1, 15.3.1, 15.3.2, 15.3.3, 15.4.1

### Bonds, Lien

7.3.4.4, 9.6.8, 9.10.2, 9.10.3

### Bonds, Performance, and Payment

7.3.4.4, 9.6.7, 9.10.3, 11.1.2, 11.1.3, 11.5

### Building Information Models Use and Reliance

1.8

### Building Permit

3.7.1

### Capitalization

1.3

### Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

Init.

/

Certificates for Payment  
 4.2.1, 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7,  
 9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.4  
 Certificates of Inspection, Testing or Approval  
 13.4.4  
 Certificates of Insurance  
 9.10.2  
 Change Orders  
 1.1.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8, 5.2.3,  
 7.1.2, 7.1.3, 7.2, 7.3.2, 7.3.7, 7.3.9, 7.3.10, 8.3.1,  
 9.3.1.1, 9.10.3, 10.3.2, 11.2, 11.5, 12.1.2  
 Change Orders, Definition of  
 7.2.1  
 CHANGES IN THE WORK  
 2.2.2, 3.11, 4.2.8, 7, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1,  
 11.5  
 Claims, Definition of  
 15.1.1  
 Claims, Notice of  
 1.6.2, 15.1.3  
 CLAIMS AND DISPUTES  
 3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, 15, 15.4  
 Claims and Timely Assertion of Claims  
 15.4.1  
 Claims for Additional Cost  
 3.2.4, 3.3.1, 3.7.4, 7.3.9, 9.5.2, 10.2.5, 10.3.2, 15.1.5  
 Claims for Additional Time  
 3.2.4, 3.3.1, 3.7.4, 6.1.1, 8.3.2, 9.5.2, 10.3.2, 15.1.6  
 Concealed or Unknown Conditions, Claims for  
 3.7.4  
 Claims for Damages  
 3.2.4, 3.18, 8.3.3, 9.5.1, 9.6.7, 10.2.5, 10.3.3, 11.3,  
 11.3.2, 14.2.4, 15.1.7  
 Claims Subject to Arbitration  
 15.4.1  
 Cleaning Up  
 3.15, 6.3  
 Commencement of the Work, Conditions Relating to  
 2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3,  
 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.2, 15.1.5  
 Commencement of the Work, Definition of  
 8.1.2  
 Communications  
 3.9.1, 4.2.4  
 Completion, Conditions Relating to  
 3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1,  
 9.10, 12.2, 14.1.2, 15.1.2  
 COMPLETION, PAYMENTS AND  
 9  
 Completion, Substantial  
 3.10.1, 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1,  
 9.10.3, 12.2, 15.1.2  
 Compliance with Laws  
 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 10.2.2,  
 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14.1.1, 14.2.1.3,  
 15.2.8, 15.4.2, 15.4.3  
 Concealed or Unknown Conditions

3.7.4, 4.2.8, 8.3.1, 10.3  
 Conditions of the Contract  
 1.1.1, 6.1.1, 6.1.4  
 Consent, Written  
 3.4.2, 3.14.2, 4.1.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 13.2,  
 15.4.4.2  
 Consolidation or Joinder  
 15.4.4  
 CONSTRUCTION BY OWNER OR BY  
 SEPARATE CONTRACTORS  
 1.1.4, 6  
 Construction Change Directive, Definition of  
 7.3.1  
 Construction Change Directives  
 1.1.1, 3.4.2, 3.11, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3,  
 7.3, 9.3.1.1  
 Construction Schedules, Contractor's  
 3.10, 3.11, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2  
 Contingent Assignment of Subcontracts  
 5.4, 14.2.2.2  
 Continuing Contract Performance  
 15.1.4  
 Contract, Definition of  
 1.1.2  
 CONTRACT, TERMINATION OR SUSPENSION  
 OF THE  
 5.4.1.1, 5.4.2, 11.5, 14  
 Contract Administration  
 3.1.3, 4, 9.4, 9.5  
 Contract Award and Execution, Conditions Relating  
 to  
 3.7.1, 3.10, 5.2, 6.1  
 Contract Documents, Copies Furnished and Use of  
 1.5.2, 2.3.6, 5.3  
 Contract Documents, Definition of  
 1.1.1  
 Contract Sum  
 2.2.2, 2.2.4, 3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.3, 7.4,  
 9.1, 9.2, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.5, 12.1.2,  
 12.3, 14.2.4, 14.3.2, 15.1.4.2, 15.1.5, 15.2.5  
 Contract Sum, Definition of  
 9.1  
 Contract Time  
 1.1.4, 2.2.1, 2.2.2, 3.7.4, 3.7.5, 3.10.2, 5.2.3, 6.1.5,  
 7.2.1.3, 7.3.1, 7.3.5, 7.3.6, 7, 7, 7.3.10, 7.4, 8.1.1,  
 8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 12.1.2,  
 14.3.2, 15.1.4.2, 15.1.6.1, 15.2.5  
 Contract Time, Definition of  
 8.1.1  
 CONTRACTOR  
 3  
 Contractor, Definition of  
 3.1, 6.1.2  
 Contractor's Construction and Submittal Schedules  
 3.10, 3.12.1, 3.12.2, 4.2.3, 6.1.3, 15.1.6.2  
 Contractor's Employees

2.2.4, 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6,  
10.2, 10.3, 11.3, 14.1, 14.2.1.1  
Contractor's Liability Insurance  
11.1  
Contractor's Relationship with Separate Contractors  
and Owner's Forces  
3.12.5, 3.14.2, 4.2.4, 6, 11.3, 12.2.4  
Contractor's Relationship with Subcontractors  
1.2.2, 2.2.4, 3.3.2, 3.18.1, 3.18.2, 4.2.4, 5, 9.6.2,  
9.6.7, 9.10.2, 11.2, 11.3, 11.4  
Contractor's Relationship with the Architect  
1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2,  
3.5.1, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.2, 5.2,  
6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6,  
10.3, 11.3, 12, 13.4, 15.1.3, 15.2.1  
Contractor's Representations  
3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2  
Contractor's Responsibility for Those Performing the  
Work  
3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8  
Contractor's Review of Contract Documents  
3.2  
Contractor's Right to Stop the Work  
2.2.2, 9.7  
Contractor's Right to Terminate the Contract  
14.1  
Contractor's Submittals  
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2,  
9.8.3, 9.9.1, 9.10.2, 9.10.3  
Contractor's Superintendent  
3.9, 10.2.6  
Contractor's Supervision and Construction  
Procedures  
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4,  
7.1.3, 7.3.4, 7.3.6, 8.2, 10, 12, 14, 15.1.4  
Coordination and Correlation  
1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1  
Copies Furnished of Drawings and Specifications  
1.5, 2.3.6, 3.11  
Copyrights  
1.5, 3.17  
Correction of Work  
2.5, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, 12.2, 12.3,  
15.1.3.1, 15.1.3.2, 15.2.1  
Correlation and Intent of the Contract Documents  
1.2  
Cost, Definition of  
7.3.4  
Costs  
2.5, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3,  
7.3.3.3, 7.3.4, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6,  
11.2, 12.1.2, 12.2.1, 12.2.4, 13.4, 14  
Cutting and Patching  
3.14, 6.2.5  
Damage to Construction of Owner or Separate  
Contractors  
3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 12.2.4

Damage to the Work  
3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 12.2.4  
Damages, Claims for  
3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.3.2,  
11.3, 14.2.4, 15.1.7  
Damages for Delay  
6.2.3, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 14.3.2  
Date of Commencement of the Work, Definition of  
8.1.2  
Date of Substantial Completion, Definition of  
8.1.3  
Day, Definition of  
8.1.4  
Decisions of the Architect  
3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 6.3, 7.3.4,  
7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.4.2,  
14.2.2, 14.2.4, 15.1, 15.2  
Decisions to Withhold Certification  
9.4.1, 9.5, 9.7, 14.1.1.3  
Defective or Nonconforming Work, Acceptance,  
Rejection and Correction of  
2.5, 3.5, 4.2.6, 6.2.3, 9.5.1, 9.5.3, 9.6.6, 9.8.2, 9.9.3,  
9.10.4, 12.2.1  
Definitions  
1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 5.1,  
6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1  
Delays and Extensions of Time  
3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7,  
10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5  
Digital Data Use and Transmission  
1.7  
Disputes  
6.3, 7.3.9, 15.1, 15.2  
Documents and Samples at the Site  
3.11  
Drawings, Definition of  
1.1.5  
Drawings and Specifications, Use and Ownership of  
3.11  
Effective Date of Insurance  
8.2.2  
Emergencies  
10.4, 14.1.1.2, 15.1.5  
Employees, Contractor's  
3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2,  
10.3.3, 11.3, 14.1, 14.2.1.1  
Equipment, Labor, or Materials  
1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,  
4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3,  
9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2  
Execution and Progress of the Work  
1.1.3, 1.2.1, 1.2.2, 2.3.4, 2.3.6, 3.1, 3.3.1, 3.4.1, 3.7.1,  
3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.6, 8.2, 9.5.1,  
9.9.1, 10.2, 10.3, 12.1, 12.2, 14.2, 14.3.1, 15.1.4  
Extensions of Time  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,  
10.4, 14.3, 15.1.6, 15.2.5

Failure of Payment  
 9.5.1.3, 9.7, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2  
 Faulty Work  
 (See Defective or Nonconforming Work)  
 Final Completion and Final Payment  
 4.2.1, 4.2.9, 9.8.2, 9.10, 12.3, 14.2.4, 14.4.3  
 Financial Arrangements, Owner's  
 2.2.1, 13.2.2, 14.1.1.4  
**GENERAL PROVISIONS**  
 1  
 Governing Law  
 13.1  
 Guarantees (See Warranty)  
 Hazardous Materials and Substances  
 10.2.4, 10.3  
 Identification of Subcontractors and Suppliers  
 5.2.1  
 Indemnification  
 3.17, 3.18, 9.6.8, 9.10.2, 10.3.3, 11.3  
 Information and Services Required of the Owner  
 2.1.2, 2.2, 2.3, 3.2.2, 3.12.10.1, 6.1.3, 6.1.4, 6.2.5,  
 9.6.1, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2,  
 14.1.1.4, 14.1.4, 15.1.4  
 Initial Decision  
 15.2  
 Initial Decision Maker, Definition of  
 1.1.8  
 Initial Decision Maker, Decisions  
 14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5  
 Initial Decision Maker, Extent of Authority  
 14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5  
 Injury or Damage to Person or Property  
 10.2.8, 10.4  
 Inspections  
 3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,  
 9.9.2, 9.10.1, 12.2.1, 13.4  
 Instructions to Bidders  
 1.1.1  
 Instructions to the Contractor  
 3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.4.2  
 Instruments of Service, Definition of  
 1.1.7  
 Insurance  
 6.1.1, 7.3.4, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5,  
 11  
 Insurance, Notice of Cancellation or Expiration  
 11.1.4, 11.2.3  
 Insurance, Contractor's Liability  
 11.1  
 Insurance, Effective Date of  
 8.2.2, 14.4.2  
 Insurance, Owner's Liability  
 11.2  
 Insurance, Property  
 10.2.5, 11.2, 11.4, 11.5  
 Insurance, Stored Materials  
 9.3.2

**INSURANCE AND BONDS**  
 11  
 Insurance Companies, Consent to Partial Occupancy  
 9.9.1  
 Insured loss, Adjustment and Settlement of  
 11.5  
 Intent of the Contract Documents  
 1.2.1, 4.2.7, 4.2.12, 4.2.13  
 Interest  
 13.5  
 Interpretation  
 1.1.8, 1.2.3, 1.4, 4.1.1, 5.1, 6.1.2, 15.1.1  
 Interpretations, Written  
 4.2.11, 4.2.12  
 Judgment on Final Award  
 15.4.2  
 Labor and Materials, Equipment  
 1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,  
 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1,  
 10.2.4, 14.2.1.1, 14.2.1.2  
 Labor Disputes  
 8.3.1  
 Laws and Regulations  
 1.5, 2.3.2, 3.2.3, 3.2.4, 3.6, 3.7, 3.12.10, 3.13, 9.6.4,  
 9.9.1, 10.2.2, 13.1, 13.3.1, 13.4.2, 13.5, 14, 15.2.8,  
 15.4  
 Liens  
 2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8  
 Limitations, Statutes of  
 12.2.5, 15.1.2, 15.4.1.1  
 Limitations of Liability  
 3.2.2, 3.5, 3.12.10, 3.12.10.1, 3.17, 3.18.1, 4.2.6,  
 4.2.7, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 9.6.8, 10.2.5, 10.3.3,  
 11.3, 12.2.5, 13.3.1  
 Limitations of Time  
 2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,  
 5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,  
 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15,  
 15.1.2, 15.1.3, 15.1.5  
 Materials, Hazardous  
 10.2.4, 10.3  
 Materials, Labor, Equipment and  
 1.1.3, 1.1.6, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,  
 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2,  
 10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2  
 Means, Methods, Techniques, Sequences and  
 Procedures of Construction  
 3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2  
 Mechanic's Lien  
 2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8  
 Mediation  
 8.3.1, 15.1.3.2, 15.2.1, 15.2.5, 15.2.6, 15.3, 15.4.1,  
 15.4.1.1  
 Minor Changes in the Work  
 1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1, 7.4  
**MISCELLANEOUS PROVISIONS**  
 13



Modifications, Definition of  
 1.1.1  
 Modifications to the Contract  
 1.1.1, 1.1.2, 2.5, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7,  
 10.3.2  
 Mutual Responsibility  
 6.2  
 Nonconforming Work, Acceptance of  
 9.6.6, 9.9.3, 12.3  
 Nonconforming Work, Rejection and Correction of  
 2.4, 2.5, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4,  
 12.2  
 Notice  
 1.6, 1.6.1, 1.6.2, 2.1.2, 2.2.2., 2.2.3, 2.2.4, 2.5, 3.2.4,  
 3.3.1, 3.7.4, 3.7.5, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 7.4,  
 8.2.2, 9.6.8, 9.7, 9.10.1, 10.2.8, 10.3.2, 11.5, 12.2.2.1,  
 13.4.1, 13.4.2, 14.1, 14.2.2, 14.4.2, 15.1.3, 15.1.5,  
 15.1.6, 15.4.1  
 Notice of Cancellation or Expiration of Insurance  
 11.1.4, 11.2.3  
 Notice of Claims  
 1.6.2, 2.1.2, 3.7.4, 9.6.8, 10.2.8, 15.1.3, 15.1.5,  
 15.1.6, 15.2.8, 15.3.2, 15.4.1  
 Notice of Testing and Inspections  
 13.4.1, 13.4.2  
 Observations, Contractor's  
 3.2, 3.7.4  
 Occupancy  
 2.3.1, 9.6.6, 9.8  
 Orders, Written  
 1.1.1, 2.4, 3.9.2, 7, 8.2.2, 11.5, 12.1, 12.2.2.1, 13.4.2,  
 14.3.1  
 OWNER  
 2  
 Owner, Definition of  
 2.1.1  
 Owner, Evidence of Financial Arrangements  
 2.2, 13.2.2, 14.1.1.4  
 Owner, Information and Services Required of the  
 2.1.2, 2.2, 2.3, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5,  
 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1,  
 13.4.2, 14.1.1.4, 14.1.4, 15.1.4  
 Owner's Authority  
 1.5, 2.1.1, 2.3.32.4, 2.5, 3.4.2, 3.8.1, 3.12.10, 3.14.2,  
 4.1.2, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1,  
 7.3.1, 8.2.2, 8.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2,  
 10.3.2, 11.4, 11.5, 12.2.2, 12.3, 13.2.2, 14.3, 14.4,  
 15.2.7  
 Owner's Insurance  
 11.2  
 Owner's Relationship with Subcontractors  
 1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2  
 Owner's Right to Carry Out the Work  
 2.5, 14.2.2  
 Owner's Right to Clean Up  
 6.3  
 Owner's Right to Perform Construction and to Award

Separate Contracts  
 6.1  
 Owner's Right to Stop the Work  
 2.4  
 Owner's Right to Suspend the Work  
 14.3  
 Owner's Right to Terminate the Contract  
 14.2, 14.4  
 Ownership and Use of Drawings, Specifications and  
 Other Instruments of Service  
 1.1.1, 1.1.6, 1.1.7, 1.5, 2.3.6, 3.2.2, 3.11, 3.17, 4.2.12,  
 5.3  
 Partial Occupancy or Use  
 9.6.6, 9.9  
 Patching, Cutting and  
 3.14, 6.2.5  
 Patents  
 3.17  
 Payment, Applications for  
 4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1,  
 14.2.3, 14.2.4, 14.4.3  
 Payment, Certificates for  
 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1,  
 9.10.3, 14.1.1.3, 14.2.4  
 Payment, Failure of  
 9.5.1.3, 9.7, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2  
 Payment, Final  
 4.2.1, 4.2.9, 9.10, 12.3, 14.2.4, 14.4.3  
 Payment Bond, Performance Bond and  
 7.3.4.4, 9.6.7, 9.10.3, 11.1.2  
 Payments, Progress  
 9.3, 9.6, 9.8.5, 9.10.3, 14.2.3, 15.1.4  
 PAYMENTS AND COMPLETION  
 9  
 Payments to Subcontractors  
 5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2  
 PCB  
 10.3.1  
 Performance Bond and Payment Bond  
 7.3.4.4, 9.6.7, 9.10.3, 11.1.2  
 Permits, Fees, Notices and Compliance with Laws  
 2.3.1, 3.7, 3.13, 7.3.4.4, 10.2.2  
 PERSONS AND PROPERTY, PROTECTION OF  
 10  
 Polychlorinated Biphenyl  
 10.3.1  
 Product Data, Definition of  
 3.12.2  
 Product Data and Samples, Shop Drawings  
 3.11, 3.12, 4.2.7  
 Progress and Completion  
 4.2.2, 8.2, 9.8, 9.9.1, 14.1.4, 15.1.4  
 Progress Payments  
 9.3, 9.6, 9.8.5, 9.10.3, 14.2.3, 15.1.4  
 Project, Definition of  
 1.1.4  
 Project Representatives

4.2.10  
 Property Insurance  
 10.2.5, 11.2  
 Proposal Requirements  
 1.1.1  
 PROTECTION OF PERSONS AND PROPERTY  
 10  
 Regulations and Laws  
 1.5, 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1,  
 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14, 15.2.8,  
 15.4  
 Rejection of Work  
 4.2.6, 12.2.1  
 Releases and Waivers of Liens  
 9.3.1, 9.10.2  
 Representations  
 3.2.1, 3.5, 3.12.6, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.10.1  
 Representatives  
 2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.10, 13.2.1  
 Responsibility for Those Performing the Work  
 3.3.2, 3.18, 4.2.2, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10  
 Retainage  
 9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3  
 Review of Contract Documents and Field Conditions  
 by Contractor  
 3.2, 3.12.7, 6.1.3  
 Review of Contractor's Submittals by Owner and  
 Architect  
 3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2  
 Review of Shop Drawings, Product Data and  
 Samples by Contractor  
 3.12  
 Rights and Remedies  
 1.1.2, 2.4, 2.5, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1,  
 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.1, 12.2.2,  
 12.2.4, 13.3, 14, 15.4  
 Royalties, Patents and Copyrights  
 3.17  
 Rules and Notices for Arbitration  
 15.4.1  
 Safety of Persons and Property  
 10.2, 10.4  
 Safety Precautions and Programs  
 3.3.1, 4.2.2, 4.2.7, 5.3, 10.1, 10.2, 10.4  
 Samples, Definition of  
 3.12.3  
 Samples, Shop Drawings, Product Data and  
 3.11, 3.12, 4.2.7  
 Samples at the Site, Documents and  
 3.11  
 Schedule of Values  
 9.2, 9.3.1  
 Schedules, Construction  
 3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2  
 Separate Contracts and Contractors  
 1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2  
 Separate Contractors, Definition of

6.1.1  
 Shop Drawings, Definition of  
 3.12.1  
 Shop Drawings, Product Data and Samples  
 3.11, 3.12, 4.2.7  
 Site, Use of  
 3.13, 6.1.1, 6.2.1  
 Site Inspections  
 3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.9.2, 9.4.2, 9.10.1, 13.4  
 Site Visits, Architect's  
 3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4  
 Special Inspections and Testing  
 4.2.6, 12.2.1, 13.4  
 Specifications, Definition of  
 1.1.6  
 Specifications  
 1.1.1, 1.1.6, 1.2.2, 1.5, 3.12.10, 3.17, 4.2.14  
 Statute of Limitations  
 15.1.2, 15.4.1.1  
 Stopping the Work  
 2.2.2, 2.4, 9.7, 10.3, 14.1  
 Stored Materials  
 6.2.1, 9.3.2, 10.2.1.2, 10.2.4  
 Subcontractor, Definition of  
 5.1.1  
 SUBCONTRACTORS  
 5  
 Subcontractors, Work by  
 1.2.2, 3.3.2, 3.12.1, 3.18, 4.2.3, 5.2.3, 5.3, 5.4,  
 9.3.1.2, 9.6.7  
 Subcontractual Relations  
 5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1  
 Submittals  
 3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.4, 9.2, 9.3,  
 9.8, 9.9.1, 9.10.2, 9.10.3  
 Submittal Schedule  
 3.10.2, 3.12.5, 4.2.7  
 Subrogation, Waivers of  
 6.1.1, 11.3  
 Substances, Hazardous  
 10.3  
 Substantial Completion  
 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3,  
 12.2, 15.1.2  
 Substantial Completion, Definition of  
 9.8.1  
 Substitution of Subcontractors  
 5.2.3, 5.2.4  
 Substitution of Architect  
 2.3.3  
 Substitutions of Materials  
 3.4.2, 3.5, 7.3.8  
 Sub-subcontractor, Definition of  
 5.1.2  
 Subsurface Conditions  
 3.7.4  
 Successors and Assigns

13.2  
Superintendent  
3.9, 10.2.6  
Supervision and Construction Procedures  
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4,  
7.1.3, 7.3.4, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.4  
Suppliers  
1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.5.4, 9.6,  
9.10.5, 14.2.1  
Surety  
5.4.1.2, 9.6.8, 9.8.5, 9.10.2, 9.10.3, 11.1.2, 14.2.2,  
15.2.7  
Surety, Consent of  
9.8.5, 9.10.2, 9.10.3  
Surveys  
1.1.7, 2.3.4  
Suspension by the Owner for Convenience  
14.3  
Suspension of the Work  
3.7.5, 5.4.2, 14.3  
Suspension or Termination of the Contract  
5.4.1.1, 14  
Taxes  
3.6, 3.8.2.1, 7.3.4.4  
Termination by the Contractor  
14.1, 15.1.7  
Termination by the Owner for Cause  
5.4.1.1, 14.2, 15.1.7  
Termination by the Owner for Convenience  
14.4  
Termination of the Architect  
2.3.3  
Termination of the Contractor Employment  
14.2.2

#### TERMINATION OR SUSPENSION OF THE CONTRACT

14  
Tests and Inspections  
3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,  
9.9.2, 9.10.1, 10.3.2, 12.2.1, 13.4  
TIME  
8  
Time, Delays and Extensions of  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7,  
10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5  
Time Limits

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2,  
5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,  
9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14,  
15.1.2, 15.1.3, 15.4  
Time Limits on Claims  
3.7.4, 10.2.8, 15.1.2, 15.1.3  
Title to Work  
9.3.2, 9.3.3  
UNCOVERING AND CORRECTION OF WORK  
12  
Uncovering of Work  
12.1  
Unforeseen Conditions, Concealed or Unknown  
3.7.4, 8.3.1, 10.3  
Unit Prices  
7.3.3.2, 9.1.2  
Use of Documents  
1.1.1, 1.5, 2.3.6, 3.12.6, 5.3  
Use of Site  
3.13, 6.1.1, 6.2.1  
Values, Schedule of  
9.2, 9.3.1  
Waiver of Claims by the Architect  
13.3.2  
Waiver of Claims by the Contractor  
9.10.5, 13.3.2, 15.1.7  
Waiver of Claims by the Owner  
9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.3.2, 14.2.4, 15.1.7  
Waiver of Consequential Damages  
14.2.4, 15.1.7  
Waiver of Liens  
9.3, 9.10.2, 9.10.4  
Waivers of Subrogation  
6.1.1, 11.3  
Warranty  
3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.2, 9.10.4, 12.2.2,  
15.1.2  
Weather Delays  
8.3, 15.1.6.2  
Work, Definition of  
1.1.3  
Written Consent  
1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.10.3,  
13.2, 13.3.2, 15.4.4.2  
Written Interpretations  
4.2.11, 4.2.12  
Written Orders  
1.1.1, 2.4, 3.9, 7, 8.2.2, 12.1, 12.2, 13.4.2, 14.3.1

## ARTICLE 1 GENERAL PROVISIONS

### § 1.1 Basic Definitions

#### § 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. The Contract Documents shall include the Bidding Requirements, including, but not limited to Advertisement or Invitation to Bid, Instructions to Bidders, the Contractor's Bid Proposal Form and other bidding forms, or portions of the Addenda relating to any Bidding Documents. The Contract Documents shall apply to all Prime Contractors for the Project and each Prime Contractor is responsible for the content of all.

#### § 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.2.1 The Contractor acknowledges and warrants that it has closely examined all of the Contract Documents, that they are suitable and sufficient to enable the Contractor to complete the Work in a timely manner for the Contract Sum, and that they include all Work, whether or not shown or described, which reasonably may be inferred to be required or useful for the completion of the Work in full compliance with all applicable codes, laws, ordinances and regulations.

#### § 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.3.1 The Contractor is strongly encouraged to visit the site of the Project before submitting a bid. Such site visit shall be for the purpose of familiarizing the Contractor with the conditions as they exist and the character of the operations to be carried on under the Contract Documents, including all existing site conditions, access to the site, physical characteristics of the site and surrounding areas.

§ 1.1.3.2 Nothing in these General Conditions shall be interpreted as imposing on either the Owner or Architect, or their respective agents, employees, officers, directors or consultants, any duty, obligation or authority with respect to any items that are not intended to be incorporated into the completed project, including but not limited to shoring, scaffolding, hoists, temporary weatherproofing, or any temporary facility or temporary activity, since these are the sole responsibility of the Contractor.

#### § 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

#### § 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.5.1 The Drawings are diagrammatical and show the general arrangement and extent of the Work; exact locations and arrangements of parts shall be determined as the Work progresses and shall be subject to the Architect's approval.

- .1 No extra compensation will be allowed due to discrepancies between actual dimensions and those indicated.
- .2 The right is reserved by the Architect to make any reasonable change in location of equipment, ductwork, and piping prior to roughing in without involving additional expense to the Owner.
- .3 Contractor shall coordinate his/her Work within the Work of others, so that interference between mechanical, electrical and other work and the architectural and structural work does not occur.
- .4 Contractor shall furnish and install supports, hangers, offsets, bends, turns, and the like in connection with this Work to avoid interference with work of other Contractors, to conceal Work where required, and to secure necessary clearance and access for operation and maintenance without involving additional expense to the Owner.

### § 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

### § 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

### § 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

## § 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

*(Paragraph Deleted)*

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§ 1.2.1.1 The general character of the detail work is shown on the drawings, but minor modifications may be made in large scale details. Where the word "similar" occurs on the drawings, it shall be used in its general sense and not as meaning identical, and all details shall be worked out in relation to their location and their connection to other parts of the work.

- .1 Where on any drawings a portion of the work is drawn out and the remainder is indicated in outline, the parts drawn out shall apply also to other like portions of the work.
- .2 Where detail is indicated by starting only, such detail shall be continued throughout the courses or parts in which it occurs and shall also apply to all other similar parts in the work unless otherwise indicated.
- .3 In case of differences between small and large-scale drawings, the larger scale drawings shall take precedence. Dimensions given shall take precedence over scale measurements.

§ 1.2.1.2 During the course of the work, should any ambiguities or discrepancies be found in the Specifications or on the Drawings; or should there be found any discrepancies between the Drawings and Specifications to which the Contractor has failed to call attention before submitting his/her bid, then the Architect will interpret the intent of the Drawings and Specifications; and the Contractor hereby agrees to abide by the Architect's interpretation and to carry out the work in accordance with the decision of the Architect.

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§ 1.2.1.3 It is expressly stipulated that neither the Drawings nor the Specifications shall take precedence over the other, and it is further stipulated that the Architect may interpret or construe the Drawings and Specifications so as to secure in all cases the result most consistent with the needs and requirements of the work. In the event of such ambiguity or discrepancy, the Contractor shall comply with the more stringent requirement, and supply the better quality or greater quantity of work.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.2.1 The various materials and products specified in the Specifications by name or description are given to establish a standard of quality and of cost for bid purposes. It is not the intent to limit the acceptance to any one material or product specified, but rather to name or describe it as the absolute minimum standard that is desired and acceptable.

- .1 A material or product of lesser quality will not be acceptable.
- .2 Where “Basis of Design” products or manufacturer’s names are used, whether or not followed by the words “Or Approved Equal”, they shall be subject to approved equals and authorized only by the Architect and/or the Owner.

§ 1.2.2.2 Substitutions lowering performance, quality, method of assembly or installation, or in general not in keeping with details and specifications, will not be permitted. Refer to substitution procedure indicated elsewhere in the Contract Documents.

§ 1.2.2.3 It is understood when a bid for any product or material is submitted, the bidder is aware of specified requirements and all materials or products within his/her bid are equal or better than such specified items.

§ 1.2.2.4 In addition to the Specifications, it shall be understood that details on Drawings shall become part of the Specification in determining the required “Standard of Quality”.

§ 1.2.2.5 If a conflict occurs between the Drawing details and Specifications, the bidder during the bidding process and/or Contractor shall bring such conflicts to the attention of the Architect in accordance with applicable requirements indicated elsewhere in other sections of the Contract Documents.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

### § 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

### § 1.4 Interpretation

In the interest of brevity, the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

### § 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect’s consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect’s or Architect’s consultants’ reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice,

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if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

**§ 1.6 Notice**

**§ 1.6.1** Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

**§ 1.6.2** Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

**§ 1.7 Digital Data Use and Transmission**

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

**§ 1.8 Building Information Models Use and Reliance**

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

**ARTICLE 2 OWNER**

**§ 2.1 General**

**§ 2.1.1** The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

**§ 2.1.2** The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

**§ 2.2 Evidence of the Owner's Financial Arrangements**

**Refer to Section 00800 – Supplementary General Conditions**

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**§ 2.3.2** The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

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#### § 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

#### § 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

### ARTICLE 3 CONTRACTOR

#### § 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

#### § 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

- 1 If the Contractor requires clarification of the intent of the Contract Documents after award, the Contractor shall be responsible to issue a type written Request for Information (RFI) to the Architect utilizing the Architect's sample form via acceptable methods set forth in Section 4.2.4.
- 2 All RFI's shall clearly identify the Architect's project number, the Construction Company name, author's name, date issued, address, phone number(s), facsimile number and the addressee of the communication.
- 3 RFI's shall be sequentially identified and numbered when issued to the Architect with the following prefix for each trade and shall be logged accordingly:

S – Structural Work (ex. S1, S2, etc.)

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P/FP – Plumbing / Fire Protection Work  
H – Heating, Ventilating, Air Conditioning, Refrigeration Work (HVACR)  
E – Electrical / Information Technology Work  
G – General Construction Work

- .4 RFI's involving Structural, Plumbing / Fire Protection, HVACR or Electrical Work shall be addressed and issued to the Architect and simultaneously issued directly to the respective Consulting Engineer.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.2.1 Conditions Precedent – Notice

- .1 Notice of any alleged Conflict that have been reasonably identified prior to submitting a Bid shall be provided to the Architect immediately in order that the Architect in its discretion, may issue an Addendum.
- .2 A Bidder's failure to do so constitutes an absolute waiver of any Conflict that may thereafter be asserted with respect thereto and shall bar any recovery regard such Conflict.
- .3 If any errors, inconsistencies or omissions appear in the drawings, specifications or other Contract Documents, which should reasonably have been discovered and concerning which interpretation had not been obtained from the Architect during the Bidding Period, the Contractor shall within ten (10) days after written "Notice of Award", notify the Architect in writing of such error, inconsistency or omission. In the event the Contractor fails to give such notice, the Contractor and its Surety will indemnify the Owner for the costs of any such errors, inconsistencies or omissions and the cost of rectifying same including attorney's fees. Interpretation of this procedure after the ten-day period will be made by the Architect and his/her decision will be final. By Submission of a Bid, the Contractor acknowledges that the Contract Documents are full and complete, are sufficient to have enabled it to determine the cost of the Work and that the Drawings, the Specifications and all Addenda are sufficient to enable the Contractor to construct the Work outlined therein in accordance with applicable laws, statutes, ordinances, building codes and regulations, and otherwise to fulfill all of its obligations under the Contract Documents.
- .4 Contractor acknowledges, except as to any reported error, inconsistencies or omissions, and to concealed or unknown conditions defined in elsewhere, by executing the Agreement, the Contractor represents the following:
  - .1 The Contract Documents are sufficiently complete and detailed for the Contractor to perform the Work and comply with all requirements of the Contract Documents.
  - .2 The Work required by the Contract Documents, including, without limitation, all construction details, construction means, methods, procedures, and techniques necessary to perform the Work, use of materials, selection of equipment, and requirements of products by manufacturers are consistent with:
    - .1 good and sound practices within the construction industry;
    - .2 generally prevailing and accepted industry standards applicable to Work;
    - .3 requirements of any warranties applicable to the Work; and
    - .4 all laws, ordinances, regulations, rules, and orders which bear upon the Contractor's performance of the Work.
  - .3 The Contractor has read, understands and accepts the Contract Documents and its Bid was made in accordance with them.
  - .4 The Contract Sum is based upon the products, materials, systems and equipment required by the Contract Documents without exception. Where the Contract Documents list one or more manufacturer or brand name products, materials, systems and equipment as acceptable, the Contract Sum is, in each instance, based upon one of the listed manufacturers or brand name products, materials, systems and equipment, or, if the Contract Sum is based upon the substitution of an "or equal" manufacturer or product, material, system or equipment, the Contractor has in

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each such instance sought and received the Architect's approval for the substitution either:

- .1 prior to the Bid in accordance with the Architect's Addenda;
  - .2 after commencement of the Work, under in conformance with substitution procedures elsewhere in the Contract Documents.
- .5 The Contract Sum is firm and is all inclusive and no escalation is contemplated for any reason whatsoever.
- .1 The Contract Sum includes any and all costs associated with completion by those dates and times, including any and all costs associated with out-of-sequence work, come-back work, stand-by work, stacking of Trades, coordination with the schedules and work of separate Contractors, allowing sufficient time, work and storage areas, and site access for separate Contractors to timely progress and complete their work, overtime, expediting and acceleration that may be required to complete the work by those dates and times.
  - .2 The Contractor has reviewed the completion dates and times, and Milestone dates set forth in the Contract Documents, agrees that such dates and times are reasonable and commits to achieve them.
- .6 The Contractor shall satisfy itself as to the accuracy of all dimensions and locations. In all cases of interconnection of its work with existing or other work, it shall verify at the site, all dimensions relating to such existing or other work. Any errors due to the Contractor's failure to verify all such locations or dimensions shall be promptly rectified by the Contractor without any additional cost to the Owner.

**§ 3.2.3** The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

**§ 3.2.4** If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor and/or his/her Surety shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

### **§ 3.3 Supervision and Construction Procedures**

**§ 3.3.1** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

- .1 At any time within the construction period, the Owner or Architect shall have the right to require the replacement of the Prime Contractor's Project Manager, Superintendent, or Foreman.
- .2 The Owner or Architect shall have the authority to direct the Contractor to assign additional supervisory personnel to ensure compliance with the Contract schedule and qualify requirements at no addition to the Contract price.
- .3 When more than one major phase is being constructed at different locations on the project site, supervision must be assigned to each phase when work of that contract is being performed. When performing construction work to maintain the progress schedule requires extended hours, multiple shifts, and additional work days, adequate supervision shall be required for each Contractor during these times. The competence

level and ability of supervisory personnel must be adequate to perform the construction activities involved and shall be in accordance with requirements indicated elsewhere in the Contract Documents.

**§ 3.3.2** The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

**§ 3.3.3** The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

**§ 3.3.4** Contractor shall lay out his/her own work and be responsible for all lines, elevations and measurements of the building and other work executed by him under the Contract. He/She must exercise proper precaution to verify the figures shown on the Drawings before laying out the work and will be held responsible for any errors resulting from his/her failure to exercise such precaution.

- .1 Contractors whose failure to perform his/her Work or whose negligence in performing his/her Work, negatively impacts other Contractors' work shall be responsible for damages incurred by the other Contractors that are necessary to maintain the project schedules, all as is more fully set forth in the further provisions of the Contract Documents including, without limitation, Section 6.2.5 of the General Conditions.

### **§ 3.4 Labor and Materials**

**§ 3.4.1** Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

**§ 3.4.2** Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

**§ 3.4.2.1** Standard of Quality: The various materials and products specified in the Specifications by name or description are given to establish a standard of quality and of cost for bid purposes.

- .1 It is not the intent to limit the Contractor to any one material or product specified, but rather to describe as the minimum standard.
- .2 When proprietary names are used as the "Basis of Design", for specified products or equipment, they shall be followed by the words, "or approved equal in quality necessary to meet the specifications", unless otherwise indicated elsewhere in the Contract Documents.

**§ 3.4.2.2** The Architect will evaluate alternatives and substitutions and shall be the sole judge of whether the alternatives (substitutions), are acceptable or not.

- .1 The burden of proving the alternatives (substitutions), are equal or better to the specified product is that of the Contractor.
- .2 Contractor shall submit request for substitution in accordance with substitution procedures indicated elsewhere in the Contract Documents.
- .3 Any alternative names or products which do not meet the Specifications will not be accepted.

**§ 3.4.3** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

### **§ 3.5 Warranty**

**§ 3.5.1** The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's

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warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

**§ 3.5.2** All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

**§ 3.5.3** The Contractor shall forward guarantee and warranty registration cards to the manufacturers in the name of the Owner showing date of acceptable Substantial Completion of the Work as the beginning date for guarantee and warranty periods.

- .1 All warranties and guarantees shall be in accordance with requirements indicated in applicable Sections of the Contract Documents.

### **§ 3.6 Taxes**

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

### **§ 3.7 Permits, Fees, Notices and Compliance with Laws**

**§ 3.7.1** Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

- .1 It shall be the obligation of the Contractor to review the Contract Documents and to determine and to notify the Owner and Architect of any discrepancy between building codes and regulations of which the Contractor has knowledge or should be reasonably able to determine.
- .2 The Contractor shall not violate any zoning, setback or other requirements of applicable laws, codes and ordinances, building codes, rules or regulations. The Contractor shall promptly notify the Architect in writing, and necessary changes shall be accomplished by appropriate Modification.

**§ 3.7.2** The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

**§ 3.7.3** If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

### **§ 3.7.4 Concealed or Unknown Conditions**

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

**§ 3.7.5** If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but

shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

### § 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

### § 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a full-time competent superintendent and necessary assistants, acceptable to the Owner and the Architect, who shall be in attendance at the Project site during performance of the Work and until Final Completion of all Work including all corrective and punch list items. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

### § 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

- .1 Within fifteen (15) days after the date of the Notice to Proceed, the Contractor shall submit to the Architect, on forms supplied by the Architect, a Critical Path Method (CPM) with arrow network diagram Progress Schedule upon which shall be indicated the dates for starting and the dates for completion of all contracts and all divisions of the work in a manner which will coincide with the Time for Completion. Contractor's Construction Schedule shall be in accordance with requirements indicated elsewhere in the Contract Documents.
- .2 The Contractor shall cooperate and consult with other Prime Contractors during the construction of this project. The Contractor shall schedule and execute his/her Work so as to avoid delay to other Prime Contractors. The Contractor is financially responsible to the other Prime Contractors for delay caused by him/her to other Prime Contractors on the Project who are intended to and shall be third party beneficiaries of the Contractor's promise herein above stated in accordance with the further provisions of the Contract

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Documents, including, without limitation, Section 6.2.5 of the General Conditions. If contrary to the foregoing, another Prime Contractor shall assert a claim or file an action directly against the Owner on account of delay for which the Contractor is allegedly responsible, the Contractor and its Surety shall indemnify and Hold Harmless the Owner and Architect for such claims, losses or delays of any kind made by another Prime Contractor; provided however, that this indemnity obligation is for the sole and exclusive benefit of the Owner and Architect and shall not be applied to the benefit of any Prime Contractor.

- .3 The Contractor shall immediately, after being awarded the contract, prepare and submit to the Architect, a submittal schedule which will be reviewed by the Architect for the orderliness of the submittals by the Contractor. This schedule shall be provided to the Architect for approval by the Architect within fourteen (14) days of receipt of Contract by the Contractor. The schedule shall be coordinated with the Project's Construction Schedule and shall allow the Architect reasonable time to review submittals.

**§ 3.10.2** The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

**§ 3.10.3** The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

**§ 3.10.4** The General Construction Work Contractor (and/or the assigned lead Contractor) shall be the scheduling Coordinator and shall perform all duties and assume all of the responsibilities of the Scheduling Coordinator as set forth in the Contract Documents and shall in addition to the requirements of other sections of the Contract Documents.

- .1 If the General Construction Work Contractor fails to perform its duties as the Scheduling Coordinator adequately or to the Owner's satisfaction, the Owner may, in addition to its other rights and remedies, appoint a substitute Scheduling Coordinator who shall act in the place and with the authority of the original Scheduling Coordinator. In that event, the Owner may, in its sole discretion, choose one of the Separate Prime Contractors or an Independent Consultant as the substitute Scheduling Coordinator. The cost and expense incurred by the Owner to engage such substitute scheduling Coordinator shall be charged to and borne by the General Construction Work Contractor and its Surety.
- .2 The Contractor's failure to cooperate and participate with the Owner and separate Prime Contractors in the development and review of construction schedules as provided in this Section 3.10 shall be a material breach of its obligations, entitling the Owner to exercise all rights and remedies under the Contract Documents and applicable law.
  - .1 In no event shall any revision to any construction schedule constitute the basis for an adjustment in the Contract time or the Contract Sum unless such adjustment is agreed to by the Owner, the Architect and achieved by a Change Order.
  - .2 Float shall belong to the Project and all "float time" belongs exclusively to the Owner and may be used as the Owner, if in its sole discretion determines.

### **§ 3.11 Documents and Samples at the Site**

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

### **§ 3.12 Shop Drawings, Product Data and Samples**

**§ 3.12.1** Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals,

provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

**§ 3.12.10.2** If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

### **§ 3.13 Use of Site**

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

### **§ 3.14 Cutting and Patching**

**§ 3.14.1** The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

**§ 3.14.2** The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

### **§ 3.15 Cleaning Up**

**§ 3.15.1** The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

**§ 3.15.2** If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

### **§ 3.16 Access to Work**

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

### **§ 3.17 Royalties, Patents and Copyrights**

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

### **§ 3.18 Indemnification**

**§ 3.18.1** To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce



other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 3.18.

- .1 Contractor, for itself, its successors and assigns, agrees to indemnify and save Owner, the individual members (past, present and future), its successors, assigns, employees, agent, Architect, Engineers, harmless from and against any and all claims, demands, damages, actions or causes of action by any party, together with any and all losses, costs or expenses in connection therewith or related thereto, including, but not limited to, attorney fees and costs of suit for bodily injuries, death or property damage arising in or in any manner growing out of the work performed, or to be performed under this Contract. Contractor and its successors and assigns agree to indemnify the Owner, its individual members (past, present and future), its successors, assigns, employees, agents, Architect, and Engineers against all fines, penalties or losses incurred for, including, but not limited to, attorney fees and costs of suit, or by reason of the violation by Contractor in performance of this Contract, or any ordinance, regulation, rule of law of any political subdivision or duly constituted public authority. Without limiting the foregoing, the Contractor, at the request of Owner, its individual members (past, present, future), its successors, assigns, employees, agents, Architect, or Engineers, agree to defend at the Contractor's expense, any suit or proceeding brought against Owner, its individual members (past, present, future), its successors, assigns, employees, agents, Architect, Engineers due to, or arising out of the work performed by the Contractor.
- .2 The Contractor assumes the entire risk, responsibility, and liability for any damage or injury of every kind and nature whatsoever (including death, resulting therefrom) to all persons, whether employees of the Contractor or otherwise, and to all property (including the Work itself) caused by, resulting from, arising out of or occurring in connection with the execution of the Work, or in preparation for the Work, or any extension, modification, or amendment to the Work by the Change Order or otherwise. To the fullest extent permitted by law, the Contractor and its Surety shall indemnify and save harmless the Owner, the Architect, the Architect's Consultants, agents and employees of any of them (herein collectively called the "Indemnitees") from and against any and all liability, loss, damages, interest, judgements and liens growing out of, and any and all costs and expenses (including, but not limited to, counsel fees and disbursements) arising out of, relating to or incurred in connection with the Work including, any and all claims, demands, suits, actions or proceedings which may be made or brought against any of the Indemnitees for or in relation to any breach of the Contract for Construction or any violation of the laws, statutes, ordinances, rules, regulations, or executive orders relating to or in any way affecting the performance or breach of the Contract for Construction, whether or not such injuries to persons or damages to property are due or claimed to be due, in whole or in part, to any negligence of the Contractor or its employees, agents, subcontractors, or materialmen, excepting only such injuries and/or damages are the result of the sole gross negligence of the Owner or Architect.

**§ 3.18.2** In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

### **§ 3.19 Re-Design**

**§ 3.19.1** If the Contractor makes, or causes to be made, due to approval of substitute equipment or otherwise, any substantial change in the form, type, system and details of construction from those shown on the Drawings, he/she shall pay for all costs arising from such changes. The Contractor shall pay all Architectural and Engineering fees required to check the adequacy of such changes. Any changes or departures from the construction or details shown shall be made only after written approval from the Architect.

**§ 3.19.2** The Contractor represents and warrants the following to the Owner (in addition to the other representations and warranties contained in the Contract Documents), as an inducement to the Owner to execute the Owner-Contractor Agreement, which representations and warranties shall survive the execution and delivery of the Owner-Contractor Agreement and the final completion of the Work.

- .1 that he/she is authorized to do business in the State, County, and/or City where construction will take place at the Project and is properly licensed by all necessary governmental and public authorities having jurisdiction over him/her and over the Work at the site of the Project;

- .2 that he/she is familiar with all Federal, State, Municipal and department laws, ordinances and regulations, which may in any way affect the Work of those employed herein, including but not limited to any special acts relating to the Work or to the Project of which it is a part;
- .3 that such temporary and permanent Work required by the Contract Documents as is to be done by him/her, can be satisfactorily constructed and used for the purposes for which it is intended;
- .4 that he/she is familiar with local trade jurisdictional practices at the site of the Project;
- .5 that he/she has carefully examined the plans; specifications and the site of the Work, and that from his/her own investigations, he/she has satisfied himself/herself as to the nature and location of the Work, the character, quality and quantity of the surface and subsurface materials likely to be encountered, the character of equipment and other facilities needed for the performance of the Work, and the general local conditions, and all other materials which may in any way affect the Work or his/her performance;
- .6 that he/she has determined what local ordinances, if any, will affect his/her Work. He/She has checked for any County, City, Borough, or Township rules or regulations applicable to the area in which the Project is being constructed and in addition, for any rules or regulations of other organizations having jurisdiction, such as chambers-of-commerce, planning commission, industries, or utility companies who have jurisdiction over property on which the Work will be performed. Any costs of compliance with local controls are included in the prices/bid, even if documents of such controlling agencies are not listed specifically in the Contract Documents.

## **ARTICLE 4 ARCHITECT**

### **§ 4.1 General**

**§ 4.1.1** The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

**§ 4.1.2** Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

### **§ 4.2 Administration of the Contract**

**§ 4.2.1** The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

**§ 4.2.2** The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

**§ 4.2.3** On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

### **§ 4.2.4 Communications**

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and

suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

- .1 All project communications shall be in typewritten 8-1/2" x 11" form and shall be transmitted via one of the following methods:
  - .1 First Class mail delivered through the U.S. Postal Service,
  - .2 Electronic facsimile,
  - .3 Overnight or Common Carrier Service (UPS, FedEx, DHL, etc.)
- .2 Electronic mail (E-mail) **shall not be used**. Any information sent via E-mail, to the Architect and Owner **will not** be recognized as valid communication and will be discarded from the project record.
- .3 Notice of proposed changes. The Architect shall notify the Contractor of all proposed changes to the Contract Documents, after award of the Contract via type written Bulletin, or in the case of minor changes in the work, via other written instrument (letter or facsimile). The Contractor shall submit a proposal to increase or decrease the Contract Sum for approval prior to commencing with the Work change unless there is no change in the Contract Sum or time.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

§ 4.2.15 Reference in the technical provisions of the Specifications to standard specifications and test methods including those of the American Society for Testing and Materials (ASTM), the American Iron and Steel Institute (AISI), the American National Standards Institute (ANSI), the American Society of Mechanical Engineers (ASME), the American Society of Heating, Refrigeration and Air Conditioning Engineers (SSGREA), the Factory Mutual System (FM), the National Fire Protection Association (NFPA), Federal Specifications, and other similar nationally recognized technical societies and agencies shall refer to the editions and revisions current with the date of the Contract Documents.

§ 4.2.16 The Architect's decision with respect to proposed substitutions of material or equipment specified by trade name shall be final. The Architect reserves the right to waive Specifications and to accept a proposed substitution which in his/her opinion is superior to the material or product specified, or to limit the Specification to the product or equipment specified.

§ 4.2.17 Approval of substitutions shall not relieve the Contractor of responsibility for adequate fulfillment of all the various parts of the Work, nor from specified guarantees and maintenance. Modification of adjacent or connecting Work required due to any substitution approval shall be provided as part of the substitution.

§ 4.2.18 Insofar as practicable, except as otherwise specified or shown, the material or product of one manufacturer shall be used throughout the Work for each specified purpose.

§ 4.2.19 Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in strict accordance with the manufacturer's directions. Should such directions conflict with the Specifications, the Contractor shall request clarification from the Architect before proceeding.

## ARTICLE 5 SUBCONTRACTORS

### § 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

### § 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, within thirty (30) days, after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

**§ 5.2.2** The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

**§ 5.2.3** The names of all Subcontractors and material suppliers shall be submitted for approval to the Architect and Owner not later than fifteen (15) days after the date of the Award of Contract unless otherwise authorized by the Architect.

- .1 The list of proposed Subcontractors shall include a description of the materials and equipment each proposes to furnish and install in the Work..2 The description shall be in sufficient detail to allow the Architect to determine general conformance to Contract requirements.
- .3 Approval of the submittals required under this Article shall not relieve the Contractor from conformance to Contract requirements.
- .4 If the Architect and/or the Owner make reasonable objection to a Subcontractor, the Contractor shall substitute a Subcontractor reasonably acceptable to the Architect and the Owner at no additional cost.

**§ 5.2.4** The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

**§ 5.2.5** Written confirmation of award of each major subcontract shall be submitted to the Architect, in form subject to his/her approval, within seven (7) days after receipt of Architect's approval of proposed Subcontractor list as provided under Section 5.2.3 (above).

### **§ 5.3 Subcontractual Relations**

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

### **§ 5.4 Contingent Assignment of Subcontracts**

**§ 5.4.1** Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

**§ 5.4.2** Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

**§ 5.4.3** Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

## ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

### § 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The General Construction Work Contractor, (and/or the assigned lead Contractor), shall act as the scheduling coordinator for all work of the Separate Prime Contractors and any other activities of the Owner's own forces and shall have direct responsibility for scheduling and coordination of all Work, as more specifically set forth in Article 3. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

### § 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

- .1 Should the Contractor cause damage to the work or property of any Separate Contractor on the Project, the Contractor shall, upon due notice, promptly settle with such other Contractor by agreement or otherwise account of any damage alleged to have been so sustained, the Contractor shall defend such proceeding at his/her own expense, and if any judgement against the Owner arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the Owner for any attorney's fees and court costs which the Owner has incurred.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

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### § 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

## ARTICLE 7 CHANGES IN THE WORK

### § 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

### § 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

### § 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6.1 For any extra work or portion thereof performed by the Prime Contractor, the cost to the Owner shall include the cost of the extra work plus a maximum allowance of fifteen (15%) percent for overhead and profit.

- .1 For any extra work or portion thereof performed by Subcontractor(s), the cost to the Owner shall include the cost of the extra work to the Subcontractor plus a maximum allowance of ten (10%) percent for overhead and profit, plus the Prime Contractor's overhead and profit not to exceed five (5%) percent of the Subcontractor's cost.
- .2 The cost of bonds and insurance shall be included as part of the overhead and profit.

§ 7.3.6.2 Change Orders shall include all costs, including the cost of preparation of the Change Order, all impact and ripple costs associated with modifications or delays to the work, and all costs associated with modifications to other work.

- .1 The Prime Contractor shall furnish all necessary documentation to support the additional costs, including, but not limited to the following:
  - .1 Copy of the Subcontractor's proposal.
  - .2 Complete breakdown of all costs for labor and materials.
  - .3 Complete breakdown of related costs.
  - .4 Other information as may be requested by the Architect.

§ 7.3.6.3 The overall cost of the Change Order shall be all inclusive and once accepted by the Owner, it shall be considered full and final.

§ 7.3.6.4 No additional time will be granted to the Contractor for minor Change Orders unless each individual Change Order totals more than \$100,000.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such



agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 if the Contractor claims that certain Work constitutes an addition, deletion, or change to the Work, the Contractor shall notify the Owner and Architect at least fourteen (14) days before proceeding with such Work, or else any claim by the Contractor for any adjustment to the Contract Sum or the Contract Time on account thereon shall be deemed waived.

- .1 If the Contractor gives timely notice and the Owner directs the Contractor to proceed with such disputed Work as part of its Work or as a minor change in the Work, the Contractor shall promptly proceed with such disputed Work, subject to later resolution in accord with the requirements of the Contract Documents.
- .2 In that event, the Contractor shall present, at the end of each day that the Contractor performed the disputed Work, a summary of the day's costs attributable to the disputed work, including labor hours and material costs, for verification by the Owner and the Architect.
- .3 Only the costs as verified by the Owner and Architect shall be used in computing any increase in costs for the purposes of the adjustment to the Contract Sum, should it later be determined that the Contractor is entitled to such adjustment.
- .4 Upon request, the Contractor shall provide to the Owner and Architect full supporting documentation for all costs claimed.
- .5 If and to the extent that the Contractor fails to submit such summary each day, its claim for an adjustment to the Contract Sum shall be deemed waived.

#### § 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

### ARTICLE 8 TIME

#### § 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

#### § 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. Contractor agrees to increase manpower, increase work hours, and to increase equipment necessary to maintain the Project Construction Schedule, and when also requested by the Architect and the Owner, and shall be without additional cost or charge to the Owner.

§ 8.2.4 Work shall commence within ten (10) days of the issuance by Owner of a Notice to Proceed and shall proceed uninterrupted to Final Completion. The Contractor acknowledges and recognizes that the Owner is entitled to full and beneficial occupancy and use of all or part of the completed Work in accordance with the Milestone

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Dates set forth in other sections of the Contract Documents, as per approved Schedule, and that the Owner has made arrangements to discharge its public obligations based upon the Contractor's achieving Substantial Completion of all of the Work within the Contract Time. The Contractor further acknowledges and agrees that if the Contractor fails to complete substantially or cause the Substantial Completion of any portion of the Work, as required by the Project Construction Schedule and/or within the Contract Time, the Owner will sustain extensive damages and serious loss as a result of such failure. The exact amount of such damages will be extremely difficult to ascertain. Therefore, the Owner and the Contractor agree as set forth (below):

- .1 If the Contractor fails to achieve partial completion within the requirements of the Milestone Dates or the approved Schedule or to achieve Substantial Completion of all or part of the Work when and as required by the Project Construction Schedule, and/or within the Contract Time, the Owner shall be entitled to retain or recover from the Contractor and its Surety, as liquidated damages and not as a penalty, the amounts indicated in other sections of the Contract Documents and commencing upon the first day following expiration of the Project Construction Schedule and/or the Contract Time, as the case may be, and continuing until the actual Date of Substantial Completion.

#### § 8.2.5 Adherence to Schedule

- .1 The Owner reserves the right to withhold monthly progress payments if the Contractor is behind schedule, unless the Contractor documents, in writing, any delays that are not the fault of the Contractor and to which the Owner and Architect agree.
- .2 Monthly progress payments will only be released after the Contractor reaches the status of completion for that month contemplated by the Construction Schedule.

#### § 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and litigation; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

- .1 Any direct claim against the Owner for delay costs caused by another Prime Contractor shall be subject to the provisions of Section 8.3.3

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 No payment shall be made by the Owner to the Contractor as compensation for damages for any delays or hindrances from any cause whatsoever in the progress of the Work, notwithstanding whether such delays are avoidable or unavoidable. The Contractor's sole remedy for delays shall be an extension of time only, pursuant to and only in accordance with Section 8.3. Such extension shall be a period equivalent to the time lost by reason of and all of the aforesaid causes. In no event shall the Owner or Architect be held responsible for any loss or damage or increased costs sustained by the Contractor through any delays caused by the Owner or Architect or any other Prime Contractor. If, contrary to the foregoing provision, the Contractor commences a direct action against the Owner or Architect seeking to recover delay costs and fails to substantially prevail in its claim that the Owner was the cause of the alleged delay, the Contractor shall reimburse the Owner and the Architect as the case may be for any attorneys' fees, professional fees and all other costs and expenses incurred by them associated with analyzing, defending or otherwise opposing any such action; provided, however, that where the delay alleged by the Contractor arises from acts, omissions, or default of another Prime Contractor or another Prime's Subcontractors and Suppliers, then the provisions of Section 8.3.1 shall apply.

- .1 Where the cause of the delay is due to weather conditions, extension of time shall be granted only for unusually severe weather, as determined by reference to historical data. The term "historical data" as used in the preceding sentence shall be construed according to this formula: Average rainfall (or snow or low temperature) for the past five years for the month in question, plus 10 percent. Weather shall not be deemed to be unusually severe unless it is more than 10 percent more severe for that month over the last five years.

§ 8.3.4 The Contractor is required to submit at any construction conference considering any claim and at any proceeding considering an extension of time, and in all subsequent administrative proceedings, all files, records, and the documents of whatever kind pertaining to the Contractor's performance of the project work, the job budget, the

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summary of all supporting data worksheets and other documents prepared in connection with the submittal of the Contractor's successful bid.

## **ARTICLE 9 PAYMENTS AND COMPLETION**

### **§ 9.1 Contract Sum**

**§ 9.1.1** The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

**§ 9.1.2** If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

### **§ 9.2 Schedule of Values**

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

**§ 9.2.1** Contractor must provide draft copies of the Schedule of Values, within fifteen (15) days from the Notice to Proceed. Submit two (2) copies to the Architect.

- .1** Schedule of Values shall include cost of work at the/each Building and for the/each Project and shall include the Architect's Special Project Number. Schedule of Values shall include materials and installation and in accordance with each Specification Section as listed in the Specification Index, as shown on the Drawings and/or as directed by the Architect. Contractor shall include separate line items for the following:
  - .1** Bonds,
  - .2** Insurance,
  - .3** Mobilization,
  - .4** General Conditions,
  - .5** Contractor's Construction Schedule,
  - .6** Submittals (Product Data, Samples, and Shop Drawings),
  - .7** As-Built Drawings and similar requirements as per Section for Closeout Documents,
  - .8** Punch List items and Closeout Documents per Section for Closeout Documents,
  - .9** Final Cleaning,
  - .10** Other items, as directed by the Architect.
- .2** Contractor shall enclose with the Schedule of Values, copies of invoices and/or cancelled checks from Bonding and Insurance Agents for the required cost of the coverage for the project being billed.

### **§ 9.3 Applications for Payment**

**§ 9.3.1** At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers and shall reflect retainage if provided for in the Contract Documents. The application for payment shall be on approved AIA G702 Forms and shall be accompanied by a partial waiver of liens in a form acceptable to the Owner and Architect.

**§ 9.3.1.1** As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

**§ 9.3.1.2** Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

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**§ 9.3.2** Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

**§ 9.3.2.1** To encourage early purchase, Owner may pay for stored materials and equipment. The following procedures must be followed in order to obtain payment.

- .1 A certificate of insurance naming the Owner as loss beneficiary for the full dollar amount representing the materials stored.
- .2 A Consent of Surety in the amount being requisitioned, said Surety being the Bonding Company of the Prime Contractor.
- .3 Materials to be stored in warehouse must be inspected by the Architect/Engineer and the Contractor will not receive extra compensation for storage costs.
- .4 Any time and travelling expenses for the Construction Inspector to visit and inspect equipment stored will be borne by the Contractor making the off-site storage request.
- .5 Payment invoices for materials stored off site shall be so noted.
- .6 After the receipt of the above, the Construction Inspector will endorse same and forward to the Owner for their approval.
- .7 Payment invoices not following the above format will be rejected in total.
- .8 There will be no storage space available in the existing building(s). Space in new building(s) may be used for storage only if approved, in writing, by the Architect/Engineer and all Contractors having work in the area.
- .9 The Contractor will be paid for storage materials no more than the actual or replacement value of the materials. The Contractor will furnish vendors price lists, priced inventories or other documentation to support claims for payment of materials stored on or off site.

**§ 9.3.3** The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

#### **§ 9.4 Certificates for Payment**

**§ 9.4.1** The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

**§ 9.4.2** The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to

payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

### § 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.
- .8 **deliberate delay in the submission for approval of names of Subcontractors, Materialmen, sources of supply, product data, shop drawings and samples; or**
- .9 **otherwise failing to comply with the requirements of the Contract Documents.**

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

- .1 If the Contractor disputes any determination by the Architect with regard to any Certificate of Payment, the Contractor nevertheless expeditiously shall continue to prosecute the Work.
- .2 The failure of the Owner to retain any percentage payable to the Contractor or any change in or variation of the time, method or condition of payments to the Contractor shall not release or discharge to any extent whatsoever, the Surety upon any bond given by the Contractor hereunder. The Owner shall have the right, but not the duty, to disregard any schedule of items and costs that the Contractor may have furnished and defer or withhold in whole or in part any payment if it appears to the Owner, in its sole discretion, that the balance available in the Contract Sum as adjusted and less retained percentages, may be insufficient to complete the Work.
- .3 Notwithstanding any provision of any law to the contrary, the Contractor agrees that the time and conditions for payment under the Contract for Construction shall be as stated in the Contract for Construction and in the Contract Documents. The Contractor specifically agrees that the Owner's failure to give, or timely give notice of:
  - .1 any error in an invoice or application for payment submitted by the Contractor for payment; or
  - .2 any deficiency or non-compliance with the Contract Documents with respect to any Work for which payment is requested, shall not waive or limit any of the Owner's rights or defenses under the Contract for Construction and the Contract Documents, or require the Owner to make a payment in advance of the time, or in an amount greater than, as provided by the Contract for Construction.

- .4 The Contractor shall make payments to its Subcontractors in accordance with the provisions of any applicable law governing the time, conditions, or requirements for payment to its Subcontractors, and shall comply with the provisions of any such law.
  - .1 The Contractor will pay its Subcontractors no later than fifteen (15) days after receipt of a payment from the Owner which includes payment for the Work of any such Subcontractors.
  - .2 The Contractor shall require its Subcontractors, by appropriate agreement, to pay their Subcontractors and Suppliers (of any tier) within the same time.
  - .3 The Contractor and its Surety shall indemnify and defend the Owner any loss, cost, expenses, or damages, including Attorney's fees arising from or relating to the Contractor's failure to comply with such law.

#### **§ 9.6 Progress Payments**

**§ 9.6.1** After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

**§ 9.6.2** The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

**§ 9.6.3** The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

**§ 9.6.4** The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

**§ 9.6.5** The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

**§ 9.6.6** A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

**§ 9.6.7** Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

**§ 9.6.8** Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

#### **§ 9.7 Failure of Payment**

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding

dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

## § 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

- .1 Owner's beneficial occupancy must be approved by all governing authorities having jurisdiction and by issuance of a temporary or permanent "Certificate of Occupancy" and in accordance with all applicable Codes and Regulations.
- .2 Substantial Completion occurs when each of the following conditions precedent has occurred:
  - .1 the Work has been sufficiently completed in accordance with Contract Documents so that the Owner obtains beneficial use and occupancy of the Work;
  - .2 Certificates of Occupancy and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the beneficial occupancy of the Project have been received by the Owner; and
  - .3 the Architect has issued a certificate of Substantial Completion. The date of Substantial Completion is the date certified by the Architect in accord with the Contract Documents and shall follow the Contractor's Notification for Substantial Completion inspection and the Architect's inspection of the Project.

§ 9.8.2 Unless otherwise indicated in the Contract Documents, no later than thirty (30) calendar days, prior to the date scheduled for Substantial Completion, the Contractor shall prepare and submit to the Architect and Owner, a comprehensive punch list of items remaining to be completed or corrected.

- .1 No later than ten (10) calendar days prior to the date for Substantial Completion, the Architect and/or Owner may add additional items requiring completion or correction.
- .2 The Contractor shall immediately proceed with the Work required by the punch list and shall complete and correct items on or added thereto by the date scheduled for Substantial Completion.
- .3 When the Contractor determines that the Work has reached Substantial Completion, or when the Owner, Architect so determine and direct the Contractor to do so, the Contractor shall request the Architect's final inspection to determine Substantial Completion. In addition, the Contractor shall prepare and submit to the Architect and Owner its final Application for Payment submitted in compliance with the requirements of the Contract Documents and shall thoroughly reinspect the Work; prepare and submit to the Architect and Owner a comprehensive final punch list of any and all items remaining to be completed or corrected (whether or not included on any previous punch list).
  - .1 Within fourteen (14) calendar days after receipt of the Contractor's request and final punch list, the Architect will inspect the Work to determine whether Substantial Completion has occurred.
  - .2 If the Architect determines that Substantial Completion has not occurred, it shall advise the Contractor and the Owner of the reasons for their determination and the Contractor shall continue with the Work and request another inspection for Substantial Completion and submit another final punch list after the concerns of the Architect have been addressed.
    - .1 The fees and expenses incurred by the Owner for services of the Architect as a result of any additional re-inspections of the Work, shall be paid by the Contractor or its Surety.
  - .3 When the Architect determines after an inspection under this Section that Substantial Completion has occurred the Architect shall:
    - .1 add to the Contractor's final punch list any additional items which they discover which also need to be completed or corrected;
    - .2 determine and certify the amount required to complete each item on the punch list, basing such determination upon the amount the Owner would have to expend or incur to complete each item if the Contractor failed to do so; and
    - .3 prepare and issue a certificate of Substantial Completion, which shall establish the date of Substantial Completion.
- .4 The Contractor shall proceed promptly to complete and correct items on the final punch list within thirty (30) calendar days of the date of Substantial Completion or prior date established for Final Completion in other sections of the Contract Documents.

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- .5 The failure of items to appear on any punch list shall not constitute an acceptance of any Work not in accord with the Contract Documents nor relieve the Contractor or its Surety of responsibility with respect thereto.
- .6 Warranties required by the Contract Documents shall commence on the approved date of Substantial Completion of the Work for the entire project unless otherwise provided in the Certificate of Substantial Completion.
- .7 The Architect shall submit the Certificate of Substantial Completion to the Owner and Contractor. If not completed within this time, the Owner may proceed to finish the Work as otherwise provided in this Agreement.

**§ 9.8.3** Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

**§ 9.8.4** When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

**§ 9.8.5** The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

### **§ 9.9 Partial Occupancy or Use**

**§ 9.9.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

**§ 9.9.2** Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

**§ 9.9.3** Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

**§ 9.9.4** As portions of the Project are completed and occupied, the Contractor shall ensure the continuing construction activity will not unreasonably interfere with the use, occupancy and quiet enjoyment of the completed portions thereof.

- .1 The Contractor agrees to coordinate the Work with the Architect and the Owner in order to minimize disturbance to occupied portions of the structure.
- .2 In the event performances or scheduled events by the Owner are conducted in close proximity to the Work in progress, the Contractor agrees to cease all Work which may disturb the Owner's occupants at the site.

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## § 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

- .1 If more than one inspection for Final Completion is required, the Contractor will be billed and responsible for the professional fees and services of the Architect.
- .2 Following Substantial Completion, in the event the Contractor or their Subcontractor fails to complete the list of items of the Work instructed by the Architect to be corrected or completed within fourteen (14) days after the date of receipt of Certificate of Substantial Completion, the Owner may:
  - .1 exercise any available remedies to correct or complete deficient work or retain a third party to correct or complete such work at the cost of the defaulting Contractor; and
  - .2 retain and deduct from any payments or retention otherwise due to the defaulting Contractor any fees and expenses for services required to be provided by the Architect more than twenty-one (21) days after the Date of Substantial Completion.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

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## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### § 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

- .1 The General Contractor (and/or assigned Lead Contractor) shall provide all necessary temporary enclosures, guardrails, barricades, etc., to adequately protect all workers and public from possible injury subject to Section 10.1.1.2 (below).
- .2 The General Contractor (and/or assigned Lead Contractor) shall be responsible for the general safeguarding of the Project, for gaining compliance with the safety requirements from all other Contractors and parties engaged in operations at the site and shall act as the Project Site Representative with regard to all safety inspections required and shall perform all necessary functions for this purpose.

### § 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

### § 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

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### § 10.2.9 Lost or Stolen Materials

§ 10.2.9.1 The Contractor shall protect all materials and equipment and equipment for which he/she is responsible, which is stored at the Project Site for incorporation in the Work, or which has been incorporated into the Work. He/She shall replace at his/her expense all such materials and equipment which may be lost, stolen or damaged, whether or not such materials or equipment have been entirely or partially paid for by the Owner.

### § 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

### § 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

## ARTICLE 11 INSURANCE AND BONDS

### § 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

- .1 Certificate of insurance shall be submitted within ten (10) days upon notification of award of Contract.
- .2 The Contractor may carry whatever additional insurance he/she deems necessary to protect himself/herself against hazards not covered by the Owner's Property Insurance, including coverage for theft, collapse, water damage, materials and equipment stored on the site, and for materials and equipment stored off site, and against loss of owned or rented capital equipment and tools owned by mechanics or any tools, equipment, scaffolding, staging, towers and forms owned or rented by the Contractor, the capital value of which is not included in the cost of the work. The Owner's "All Risk" Insurance does not cover theft of materials unless installed and made an integral part of the building. This loss must be assumed by the Contractor.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 **Notice of Cancellation or Expiration of Contractor's Required Insurance.** Within five (5) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

### § 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

- .1 The Property Insurance obtained by the Owner shall include collapse and water damage, to the extent covered by the Owner's "All Risk" insurance.
- .2 The Owner agrees to be responsible for losses not covered by Property Insurance due to statutory deductible provisions.
- .3 The fact that the Owner is furnishing Property Insurance shall not be interpreted to relieve the Contractor of his/her obligation to complete the work without additional cost to the Owner beyond the Contract amount, except as provided in Section 11.2.1.2 (above).

§ 11.2.2 **Failure to Purchase Required Property Insurance.** If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change

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Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

**§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance.** Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

### **§ 11.3 Waivers of Subrogation**

**§ 11.3.1** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's Consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

**§ 11.3.2** If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

### **§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance**

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

### **§ 11.5 Adjustment and Settlement of Insured Loss**

**§ 11.5.1** A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

**§ 11.5.2** Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and

Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

## **ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**

### **§ 12.1 Uncovering of Work**

**§ 12.1.1** If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

**§ 12.1.2** If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

### **§ 12.2 Correction of Work**

#### **§ 12.2.1 Before Substantial Completion**

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

#### **§ 12.2.2 After Substantial Completion**

**§ 12.2.2.1** In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5. The Contractor shall bear all costs of correcting any and all Work not complying with this warranty, and the Contractor and its Surety shall indemnify the Owner for all costs, expenses, losses, and/or damages incurred by the Owner, including Attorney's fees, additional testing and inspections and compensation for the services and expenses of the Architect made necessary thereby. This warranty is in addition to any other warranty or remedy provided elsewhere in the Contract Documents and shall survive the expiration of any such other warranty, acceptance of a final payment for the Work, and the termination of the Contract for Construction.

**§ 12.2.2.2** The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

**§ 12.2.2.3** The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

**§ 12.2.3** The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

### § 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

§ 12.3.1 The Contractor and its Surety guarantee to make good, repair and/or correct, at no cost or expense to the Owner, any and all latent defects hereafter discovered, provided only that notice in writing, shall be given by the Owner to the Contractor within one (1) year of the discovery of such defects.

- .1 This obligation shall survive the termination of any or all other obligation or obligations under the Contract Documents and it is agreed by the Contractor and its Surety that in the event the Owner is required to bring suit under this provision against the Contractor or its Surety to enforce this obligation, the Contractor and its Surety hereby waive any defense of the status of limitations.

## ARTICLE 13 MISCELLANEOUS PROVISIONS

### § 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

- .1 Contractor must comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities, utility companies, National Board of Fire Underwriters, and others which bear on performance of Work. Deliver to the Owner, certificates and other required legal evidence and proof of compliance with the above.

### § 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

### § 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

### § 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public

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authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

**§ 13.4.2** If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

**§ 13.4.3** If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

**§ 13.4.4** Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

**§ 13.4.5** If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

**§ 13.4.6** Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

### **§ 13.5 Interest**

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

## **ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT**

### **§ 14.1 Termination by the Contractor**

**§ 14.1.1** If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, their agents or employees, or any other persons performing portions of the  
Work  
(Paragraph Deleted)

under contract with the Contractor  
(Paragraphs Deleted)

because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work or under any order of any Court or other public authority having jurisdiction, the Contractor may, upon seven (7) additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner.

### **§ 14.2 Termination by the Owner for Cause**

**§ 14.2.1** The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of breach of a provision of the Contract Documents.

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**§ 14.2.2** When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

**§ 14.2.3** When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

**§ 14.2.4** If the costs of finishing the Work, including compensation for the services of any Consultants and the Architect's services and expenses made necessary thereby, and the other costs and expenses identified hereinafter, exceed the unpaid balance of the Contract Sum, the Contractor and its Surety shall pay the difference to the Owner upon demand. The costs of finishing the Work include, without limitation, all reasonable Attorney's fees, additional title costs, insurance, additional interest because of any delay in completing the Work, and all other direct and indirect consequential costs, including, without limitation, Liquidated Damages for untimely completion as specified in the Contract Documents, incurred by the Owner by reason of, or arising from, or relating to the termination of the Contractor as stated herein.

#### **§ 14.3 Suspension by the Owner for Convenience**

**§ 14.3.1** The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

**§ 14.3.2** The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

#### **§ 14.4 Termination by the Owner for Convenience**

**§ 14.4.1** The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

**§ 14.4.2** Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

**§ 14.4.3** In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work performed as of the date of termination in accordance with the Contract Documents. The Contractor shall, as a condition of receiving the payment(s) referred to herein, execute and deliver all such papers, turn over all plans, documents and files of whatsoever nature required by the Owner and take all such steps, including the legal assignment of its contractual rights, as the Owner may require for the purpose of fully vesting in the Owner the rights and benefits of the Contractor. The Contractor warrants that it will enter into no subcontracts or other agreements that would adversely impact the Owner's rights or increase the Owner's obligations under this Section. In no event shall the Owner be liable to the Contractor for lost or anticipated profits or consequential damages, or for any amount in excess of the compensation due to the Contractor in accord with the Contract Documents for the Work performed as of the date of termination. The warranty and indemnity obligations of the Contractor and Surety shall survive and continue, notwithstanding and termination pursuant to this Section, with respect to the Work

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performed as of the date of termination.

## **ARTICLE 15 CLAIMS AND DISPUTES**

### **§ 15.1 Claims**

#### **§ 15.1.1 Definition**

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term “Claim” also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

#### **§ 15.1.2 Time Limits on Claims**

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law.

- .1 No act or omission by the Owner or Architect, or by anyone acting on behalf of either shall be deemed or construed as a waiver or limitation of any right or remedy under the Contract Documents, or as an admission, acceptance, or approval with respect to any breach of the Contract for Construction or failure to comply with the Contract Documents by the Contractor, unless the Owner expressly agrees, in writing.
- .2 The Owner’s exercise, or failure to exercise any rights, claims or remedies it may have arising out of or relating to the Contract Documents shall not release, prejudice, or discharge the Owner’s other rights and remedies, nor shall it give rise to any right, claim, remedy or defense by any other person, including the Contractor, its Surety, any Subcontractor, or any other person or entity.
- .3 Whenever possible, each provision of the Contract Documents shall be interpreted in a manner as to be effective and valid under applicable law. If, however, any provision of the Contract Documents, or portion thereof, is prohibited or found invalid by law, only such invalid provision or portion thereof shall be ineffective and shall not invalidate or affect the remaining provision of the Contract Documents or valid portions of such provision, which shall be deemed severable.

#### **§ 15.1.3 Notice of Claims**

**§ 15.1.3.1** Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

- .1 The Owner has the responsibility to make a claim as promptly after recognizing or receiving notice of a condition which give reason for a claim.
- .2 The Contractor must provide notice of a claim prior to the submission of a payment requisition, not later than the submission of the second payment requisition following the date the Contractor knew or should have known of the condition giving rise to the claim.

**§ 15.1.3.2** Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

#### **§ 15.1.4 Continuing Contract Performance**

**§ 15.1.4.1** Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

**§ 15.1.4.2** The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker’s decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

Init.

### § 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

### § 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

### § 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

### § 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon

receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

**§ 15.2.5** The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

**§ 15.2.6** Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

**§ 15.2.6.1** Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

**§ 15.2.7** In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

**§ 15.2.8** If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

### **§ 15.3 Mediation**

**§ 15.3.1** Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

**§ 15.3.2** The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by a retired Judge of the Superior Court of New Jersey mutually agreed to by the parties. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

*(Paragraph Deleted)*

**§ 15.3.4** The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

### **§ 15.4 Arbitration**

**§ 15.4.1** All questions in dispute between the Owner and the Contractor shall be determined by the Courts having jurisdiction

*(Paragraphs Deleted)*

of the subject matter, and neither party shall submit to arbitration by the American Arbitration Association or any other arbitration agency.

## SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

### 1.1 GENERAL

- A. The following Supplementary General Conditions supplement, modify, change, delete from or add to the "General Conditions of the Contract for Construction", AIA Document A201, 2017 ("**General Conditions**"). Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect. These Supplementary General Conditions take precedence over any conflicting provisions in the General Conditions.
- B. Refer to other Sections in Division 1 "General Requirements" for additional modifications, deletions and additions to the "General Conditions of the Contract for Construction."

### 1.2 ARTICLE 2 OWNER

- A. PARAGRAPH 2.2 - INFORMATION AND SERVICES REQUIRED OF THE OWNER:

Insert the following paragraph:

2.2.1 The Architect will furnish the contractor, without charge, the following number of sets of drawings and specifications. Additional copies will be furnished at the Architect's reproduction costs.

**Single Overall Contract            3 Sets**

### 1.3 SUBMITTALS

- A. Supplement Paragraph 3.12 "Shop Drawings, Product Data and Samples", as follows:

3.12.11 Contractor shall provide separate submittals for each Project with reference to Architect's Project Number. Contractor shall, within ten (10) working days of the Award Notice, forward to the Architect a written submittal log including all of the following information:

- .1 A list of all required submission items grouped by technical section division number as set forth in the specifications,
- .2 Dates upon which each submission will be made by the contractor and the date by which the contractor expects same to be returned to him by the Architect, allowing a reasonable time for review,
- .3 Critical items and long lead items shall be so noted on the log,
- .4 A sequence of submissions reasonably based upon the expected progress of the Project.
- .5 Submittals will be mandatory and shall meet time requirements established in other sections of the Contract Documents.

- .6 The Contractor shall complete the entire submission process as soon as possible but in no event later than thirty (30) calendar days after Notice to Proceed. Exceptions may be made if so noted on the submission log, with good reason, and subject to the Architect's approval. Upon receipt by the Architect, he will review same and advise the Contractor if the log is acceptable. At no time will the Contractor unduly burden the Architect with excessive or unreasonable submittals made at one time. In advertent omission of any required submittal item from the log does not relieve the Contractor of his obligation to make timely submissions of same. The Contractor shall keep his submission log up to date at all times. He will provide an updated copy to the Architect, at any time, upon request.

3.12.12 All fabricated work shall require shop drawings.

3.12.13 The Architect may request samples of any or all materials to be used in the work. When requested, samples shall be submitted promptly.

3.12.14 Submittal Procedures: The Contractor's failure to follow proper procedures for submittals constitutes grounds for withholding of payments until such time as the Contractor is in compliance. Proper submittal procedures include all of those set forth elsewhere in this specification including the following:

- .1 Failure to adhere to deadlines for completion of submittals and record/resubmittals.
- .2 Failure to provide submittals in good order as required by the Contract Documents.
- .3 Failure to provide submittals in relationship to the progress of the work.
- .4 Performance of work or part of the work, without complete approved submittals.

3.12.15 Architect / Engineer's actions for submittals shall be as follows:

- .1 Submittals returned to the Contractor marked "Approved" allow the Contractor to proceed with the work.
- .2 Submittals returned to the Contractor "Approved As Noted; "Resubmit For Record:"
  - .1 The Contractor may proceed with work, however noted items by the Architect / Engineer (or any affected portion of the submittal), must be corrected and resubmitted to the Architect's office within ten (10) working days of contractor's receipt of the original submittal. Final acceptance of all work is subject to the Contractor's compliance with requirements of the Contract Documents.
- .3 Submittals returned marked "Returned for Corrections" require the Contractor to resubmit corrected or alternate data in accordance with the corrections indicated.
  - .1 The originals of the reproducible transparencies marked "Returned for Corrections" shall be corrected until approval is obtained. The Contractor shall provide such number of prints of transparencies marked "Approved" as required for the expeditious execution of the work.

- .4 Submittals returned marked "No Action Taken:"
    - .1 The Contractor may not proceed with the work. The Architect / Engineer will not review submittals so marked until the Contractor has properly completed the submittal or corrected the reasons stated thereon.
    - .2 Reasons for "No Action Taken" on a submittal include, but are not limited to the Contractor's failure to:
      - .1 Submit an approved sub-contractor or supplier.
      - .2 Indicate job specific product data such as catalog number, size, type or material on each submittal.
      - .3 Submit complete data, test reports or similar information as required by the Contract Documents.
      - .4 Obtain prior approval for substitution.
      - .5 Submit documents in a legible or orderly fashion.
      - .6 Adhere to any submittal requirements set forth in the Contract Document.
      - .7 Submit only submittals which are called for in the Contract Documents, other submittals will not be reviewed by the Architect / Engineer.
  - .5 Shop drawing submittals and color selection approvals by the Architect:
    - .1 The Contractor shall submit all shop drawing submittals within the specified time stipulated in contract documents.
    - .2 The Architect / Engineer shall release/ return to the Contractor the approved color selections to coincide with the approved Milestone Schedule/ Project Phasing if more than one construction phase is identified in Section 01800.
- 3.12.16 Request for Substitutions:
- .1 Unless otherwise indicated in the Contract Documents, substitutions may be considered after the award of Contracts. Subsequent requests will be considered only when, through no fault of the Contractor, none of the specified products are available.
  - .2 Submission of request for substitution shall constitute a representation by the Contractor that he:
    - .1 Has investigated the proposed product and determined that it is equal to or better than the specified product.
    - .2 Will provide the same variety for the proposed product as for the specified product.
    - .3 Will coordinate the installation and make other changes which may be required for the work to be complete in all respects, including:
      - .1 Re-design.
      - .2 Additional components and capacity required by other work affected by the change.
      - .3 Waives all claims for additional costs and time extensions which subsequently may become apparent and which are caused by the change.
  - .3 Substitutions will not be considered when acceptance would require substantial revision of the contract documents.

- .4 Substitutions will not be considered when they are indicated or implied on shop drawings or product data submittals without separate written request.
- .5 Substitution requests will not be considered when submitted directly by subcontractor or supplier.
- .6 When the proposed substitution is not accepted, Contractor(s) must provide the product (or one of the products, as the case may be) specified.
- .7 The Contractor will be notified in writing within a reasonable time, verbal acceptance will not be valid.
- .8 Acceptable substitutions will be added to the contract documents by appropriate modifications.
- .9 Requests for substitution will be reviewed by the Architect upon receipt of all the information requested in the following paragraph. Failure to provide the required information shall be cause for rejection of substitution request.
- .10 Submittal for Substitutions:
  - .1 The Contractor shall begin the submission process as soon as possible after the Notice to Proceed, but in no event later than fifteen (15) working days after Notice to Proceed.
  - .2 The Contractor shall sequence and time his submissions in a reasonable and orderly fashion. He will allow for sufficient time for the Architect's review as well as the transmission of same amongst all project participants.
  - .3 In the case of color selections, the Contractor is responsible for the completion of all required and related submissions, including samples, prior to the Owner's selection of colors. Exceptions can be made for certain long lead items so identified on the submittal log.
  - .4 The Contractor shall complete the entire submission process as soon as possible but in no event later than thirty (30) calendar days after Notice to Proceed. Exceptions may be made if so noted on the submission log, with good reason, and subject to the Architect's approval. Upon receipt by the Architect, he will review same and advise the Contractor if the log is acceptable. At no time will the Contractor unduly burden the Architect with excessive or unreasonable submittals made at one time. In advertent omission of any required submittal item from the log does not relieve the Contractor of his obligation to make timely submissions of same. The Contractor shall keep his submission log up to date at all times. He will provide an updated copy to the Architect, at any time, upon request.
    - .1 Exceptions may be made if so noted on the submission log, with good reason, and subject to the Architect's / Engineer's approval.
    - .2 Upon receipt by the Architect, he will review same and advise the Contractor if the log is acceptable.
    - .3 At no time will the Contractor unduly burden the Architect/Engineer with excessive or unreasonable submittals made at one time.
    - .4 In advertent omission of any required submittal item from the log does not relieve the Contractor of his obligation to make timely submissions of same. The Contractor shall keep his submission log up to date at all



times. He will provide an updated copy to the Architect, at any time, upon request.

- .5 Submit three (3) copies of requests for substitutions, fully identified for product, material or method being replaced by substitution, including related specification section and drawing number(s), and fully documented to show compliance with requirements for substitutions. Submit the following:
  - .1 Complete product data, drawings, and descriptions of materials and methods where applicable. Provide manufacturer's name and address, trade name, and model number of product (if applicable), and name of fabricator or supplier (if applicable).
  - .2 Samples where applicable or requested.
  - .3 Detailed comparison of significant qualities (size, weight, durability, performance and similar characteristics, and including visual effect where applicable) for proposed substitution in comparison with original requirements.
  - .4 List, with addresses, of three (3) projects where proposed substitution has been used previously and successfully in a similar application.
  - .5 Coordination information indicating every required change in every other element of the work which is affected by substitution, extended to include work by Owner and separate contractors.
  - .6 A complete statement of effect substitution will have upon schedule of the work, including its effect (if any) on Contract Time (in comparison with compliance with requirements without approval of proposed substitution).
  - .7 Cost information, including a proposal of net change in Contract Sum (if any).
  - .8 Certification by Contractor to the effect that, in his opinion and after his thorough evaluation, proposed substitution will result in total work which is equal to or better than the work originally required by contract documents, in every respect of significance except as specifically stated in certification; and that it will perform adequately in application indicated, regardless of equality and exceptions thereto.
  - .9 Include in certification, Contractor's waiver of rights to additional payment and time which may subsequently be necessitated, by failure of substitution to perform adequately and for required work to make corrections thereof.

#### 3.12.17 Approval of Substitutions:

- .1 Requests for substitution will be reviewed for compliance with the specifications based upon the data provided by the Contractor. Approval or rejection will be based on samples, technical data and other items submitted and will be reviewed once and only once for each such request.
- .2 Change Order Form: Submit requests for substitutions which propose a change in either the Contract Sum or Contract Time by procedures required for change order proposals.

### 3.12.18 Long Lead Items:

- .1 In addition to and concurrent with the submission of the "Schedule of Values" as provided under Paragraph 9.2, Contractor shall submit a list of all materials, equipment or components which are anticipated to require more than four weeks delivery, together with scheduled ordering and delivery time table.
- .2 This will be discussed and reviewed regularly at the job meetings.
- .3 Upon request by the Architect / Engineer, the Contractor shall be prepared to produce evidence of having placed orders for specific materials, equipment and components.

## 1.4 ARTICLE 5 SUBCONTRACTORS

- A. 5.2.1 In Line 2, delete: "within 30 days after award of the Contract,"

## 1.5 ARTICLE 9 PAYMENTS AND COMPLETION

- A. Supplement subparagraph 9.6 "PROGRESS PAYMENTS" as follows:

9.6.8 Unless indicated otherwise in the Contract Documents, in making progress payments, on Contracts totaling more than \$100,000 dollars there shall be retained two percent (2%) of the approved amount when the outstanding balance of the contract exceeds \$500,000, and 5% of the amount due on each partial payment when the outstanding balance of the contract is \$500,000 or less, until final completion and acceptance of all work covered by the Contract, including the completion of all corrective or punch list items.

- .1 In making progress payments, on Contracts totaling less than \$100,000 dollars there shall be retained ten percent (10%) of the approved amount until seventy-five percent (75%) of the Contract Price has been paid at which time the retainage for that seventy-five percent (75%) will be reduced to five percent (5%) if in the judgment of the Architect the work is progressing satisfactorily, and on progress payments thereafter there shall be retained ten percent (10%) of the approved amounts until final completion and acceptance of all work covered by the Contract, including the completion of all corrective or punch list items. The Contractor will be required to provide a Consent of Surety to Reduction in or Partial Release of Retainage (AIA Document G707A), before reduction in retainage will be considered.

9.6.9 Final payment will be made provided the work has been completed, the contract fully performed and a final certificate for payment has been issued by the Architect.

9.6.10 As required by N.J.S.A. 2A:30A-1, this is to inform you that as a governmental entity, the School District may require longer to make payment than thirty (30) calendar days after receipt of your billing. As provided by law, payments that required a vote of authorization may be certified at the next scheduled public meeting and paid during the next subsequent payment cycle.

## 1.6 ARTICLE 11 INSURANCE AND BONDS

A. Supplement Subparagraph 11.1 CONTRACTOR'S LIABILITY INSURANCE as follows:

11.1.5 Certificate of insurance shall be submitted within ten (10) calendar days upon notification of award of Contract.

11.1.6 Contractor's liability insurance must be maintained until the final Certificate of Payment is issued pursuant to Paragraph 9.10.1 and Completed Operations Insurance is in effect.

11.1.7 Insurance specified to be provided by the Contractor under Paragraph 11.1 shall be on an occurrence basis, as follows:

- .1 The Contractor shall take out and maintain during the life of this Contract commercial general liability insurance, covering any and all bodily injury, including accidental death, as well as claims for property damage arising out of or in connection with the Work performed hereunder, whether such Work be performed by the Contractor or by any subcontractor or by anyone directly or indirectly employed by either of them.
  - .a The policy shall include coverage for contract liability, products/ completed, operations explosion and collapse and underground operations in an amount not less than \$1 million.
  - .b The policy shall name the Owner, the Architect, and their consultants and agents and employees, as additional insureds.
- .2 The Contractor shall take out and maintain comprehensive automobile liability insurance, including coverage for all owned, non-owned and hired vehicles, covering bodily injury and property damage.
  - .a Such coverage shall be in the amount of \$1million combined single limit.
  - .b \$50,000 for one person in any one occurrence; \$500,000 for two or more persons in any one occurrence.
  - .c and \$100,000 for property damage in any one occurrence.
  - .d The policy shall name the Owner, the Architect, and their consultants and agents and employees as additional insureds.
- .3 Contractual liability insurance as applicable to the Contractor's obligations under Paragraph 3.18 of the AIA General Conditions.
- .4 Workers' Compensation Insurance of not less than statutory limits and Employer's Liability of \$500,000 each accident.
- .5 Completed Operations Insurance written to the limits specified for liability insurance specified under subparagraph .1 above. Coverage shall be required from the date of the start of Beneficial Occupancy until one year after the issuance date of Final Certificate for Payment.
- .6 Certificates of insurance must be submitted on the ACORD Form, Certificate of Insurance.

- .7 The Contractor shall either:
  - .a require each of his subcontractors to procure and to maintain during the life of their subcontracts, Subcontractor's Public Liability and Property Damage, of the type and in the same amounts as specified in the preceding paragraph; **or**
  - .b insure the activities of their subcontractors under their respective policies.

B. Subparagraph 11.3.3 LOSS OF USE INSURANCE

Delete subparagraph 11.3.5 in its entirety.

C. Subparagraph 11.4 PERFORMANCE BOND AND PAYMENT BOND

Delete in its entirety and substitute the following:

11.4.1 Contractor shall furnish each of the performance bond and payment bond meeting all statutory requirements of the State of New Jersey in form and substance satisfactory to the Owner and, without limitation, complying with the following specific requirements:

- .1 Except as otherwise required by statute, the form and substance of such bonds shall be satisfactory to the Owner in the Owner's sole judgment;
- .2 The bonds shall be executed by an approved surety company authorized to do business in the State of New Jersey and in accordance P.L. 1995, c.384 (amending N.J.S.A. 2A:44-143 and 2A:44-144, effective January 10, 1996) and with the three highest rating categories of rating companies nationally recognized and listed as per Appendix A, (go to [www.nj.gov/dobi/surety.htm](http://www.nj.gov/dobi/surety.htm)), and shall remain in effect for a period of not less than two years following the date of substantial completion or the time required to resolve any items of incomplete or inadequate work and the payment of any disputed amounts, whichever time period is longer;
- .3 The performance bond and the labor and material payment bond shall each be in an amount equal to the Contract Sum;
- .4 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his power of attorney indicating the monetary limit of such power;
- .5 Any bond under this Paragraph 11.4.1 must display the surety's bond number. A rider including the following provisions shall be attached to each bond:
  - .1 surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change or other modification of the Contract Documents. Any other alterations, change, extension of time or other modification of the Contract Documents or a forbearance on the part of either the Owner or the Contractor to the other shall not release the surety of its obligations hereunder and notice to surety of such matter is hereby waived.
  - .2 Surety further agrees that in the event of any default by the Owner in the performance of the Owner's obligations to the Contractor under the Contract, the Contractor or surety shall cause written notice of such default (specifying said default in writing) to be given to the Owner, and the Owner

shall have thirty (30) calendar days after receipt of such notice within which to cure such default or such additional reasonable time as may be required if the nature of such default is such that it cannot be cured within thirty (30) calendar days. Such notice of default shall be sent by certified or registered U.S. mail, return receipt requested, first class postage, prepaid to the Owner.

## **1.7 ARTICLE 13 MISCELLANEOUS PROVISIONS**

- A. Delete Paragraph 13.6 "Interest" in its entirety.

**END OF SECTION 00800**

## **SECTION 00850 - CONTRACT DRAWINGS**

- 1.1 All Drawings listed on drawing No. G001, "Title Sheet & Drawing Index," dated February 3, 2021, unless otherwise revised or amended (via Addenda, Bulletin, etc.), shall form a part of the Contract Documents.

**END OF SECTION 00850**

## **SECTION 00860 - LAWS GOVERNING PUBLIC WORK**

### **PART 1 - GENERAL**

#### **1.1 GENERAL REQUIREMENTS**

- A. The paragraphs below supplement the General Conditions. Attention is called, but not limited, to the following Laws Governing Public Work.

#### **1.2 STATE SALES AND USE TAX EXEMPTION**

- A. Supplement paragraph 3.6 "Taxes" as follows:

3.6.1 As a New Jersey governmental entity, the Board of Education is exempt from the requirements under New Jersey state sales and use tax (N.J.S.A. 54:32B-1 et seq.), and does not pay any sales or use taxes. Bidders should note that they are expected to comply with the provisions of said statute and the rules and regulations promulgated thereto to qualify them for examinations and reference to any and all labor, services, materials and supplies furnished to the Board of Education. Contractors may not use the Board's tax identification number to purchase supplies, materials, service or equipment, for this project.

.1 A contractor may qualify for a New Jersey Sales Tax Exemption on the purchase of materials, supplies and services when these purchases are used exclusively to fulfill the terms and conditions of the contract with the Board of Education. All contractors are referred to New Jersey Division of Taxation-Tax Bulletin S&U-3 and in particular, Contractor's Exempt Purchase Certificate (Form ST-13). Again, contractors are not permitted to use the Board's tax identification number to purchase supplies, materials, services of equipment.

#### **1.3 MUNICIPAL REQUIREMENTS**

- A. Supplement paragraph 3.7 "Permits, Fees, Notices and Compliance with Laws" as follows:

3.7.1.1 N.J.S.A. 52:27D-130, provides that local Municipal Construction Enforcing Agency issue required construction permit, perform required inspections during construction, and issue required certificate of occupancy upon completion of Project.

3.7.1.2 N.J.S.A. 52:27D-126C, "No county, municipality, or any agency or instrumentality thereof shall be required to pay any municipal fee or charge in order to secure a construction permit for the erection or alteration of any public building or part thereof from the municipality wherein the building may be located. No erection or alteration of any public building or part thereof by a county, municipality, school board, or any agency or instrumentality thereof shall be subject to any fee, including any surcharge or training fee, imposed by any department or agency of State government pursuant to any law, or rule or regulation, except that nothing contained

in this section shall be interpreted as preventing the imposition of a fee upon a board of education by either the Department of Education for plan review or by a municipality for the review of plans submitted to it pursuant to the provisions of section 12 of P.L.1975, c.217 (C.52:27D-130).

3.7.1.3 N.J.S.A. 40:55D-8(d), A municipality shall exempt a board of education from the payment of any fee related to land use, and site development.

3.7.1.4 N.J.S.A. § 52:27d-126e (amended effective July 21, 2017) - Waiving of Construction Permit, Enforcing Agency Fees for Certain Construction Projects To Benefit Disabled Persons.

1. a. Notwithstanding the provisions of the "State Uniform Construction Code Act," P.L. 1975, c.217 (C.52:27D-1 19 et seq.), or any rules, regulations or standards adopted pursuant thereto, to the contrary, the governing body of any municipality which has appointed an enforcing agency pursuant to the provisions of section 8 of P.L.1975, c.217 (C.52:27D-126) may, by ordinance, provide that no person shall be charged a construction permit surcharge fee or enforcing agency fee for any construction, reconstruction, alteration or improvement designed and undertaken solely to promote accessibility by disabled persons to an existing public or private structure or any of the facilities contained therein.

The ordinance may further provide that a disabled person, or a parent or sibling of a disabled person, shall not be required to pay any municipal fee or charge in order to secure a construction permit for any construction, reconstruction, alteration or improvement which promotes accessibility to his own living unit.

For the purposes of this subsection, "disabled person" means a person who has the total and permanent inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment, including blindness, and shall include, but not be limited to, any resident of this State who is disabled pursuant to the federal Social Security Act (42 U.S.C.416), or the federal Railroad Retirement Act of 1974 (45 U.S.C.231 et seq.), or is rated as having a 60% disability or higher pursuant to any federal law administered by the United States Veterans' Act. For purposes of this paragraph "blindness" means central visual acuity of 20/200 or less in the better eye with the use of a correcting lens. An eye which is accompanied by a limitation in the fields of vision such that the widest diameter of the visual field subtends an angle no greater than 20 degrees shall be considered as having a central visual acuity of 20/200 or less.

b. (1) Notwithstanding the provisions of the "State Uniform Construction Code Act," P.L. 1975, c.217 (C.52:27D-119 et seq.) or any rules, regulations or standards adopted pursuant thereto to the contrary, the governing body of any municipality which has appointed an enforcing agency pursuant to the provisions of section 8 of P.L. 1975, c.217 (C.52:27D-126) shall not charge a person who has a service-connected disability declared by the United States Department of



Veterans Affairs, or its successor, to be a total or 100% permanent disability that would entitle them to a property tax exemption under section 1 of P.L.1948, c.259 (C.54:4-3.30) or a spouse, parent sibling, or guardian of the disabled veteran, a construction permit surcharge fee or enforcing agency fee for any construction, reconstruction, alteration, or improvement designed and undertaken solely to promote accessibility by the disabled veteran to his own living unit.

(2) A municipality that has granted an exemption from a construction permit surcharge fee or enforcing agency fee pursuant to paragraph (1) of this subsection may apply to the Department of Community Affairs, in accordance with rules and regulations promulgated by the Commissioner of Community Affairs for this purpose, for reimbursement of those exempt fees.

- B. Utility Connection Fees: Contractors shall pay utility connection fees and shall be reimbursed by Owner upon presentation of receipt for same.
- C. Certificates of Occupancy: Contractors shall be responsible for obtaining all Certificates of Occupancy.

#### **1.4 TIME INCLUDING COMPLETION**

- A. Supplement Article 8 "Time" as follows:

8.1.7 The term "completed" in N.J.S.A. 18A:18A-19 shall mean substantial completion as defined in this Article 8.

8.1.8 The term "Working Days" as used to compute the time of completion shall mean Mondays through Fridays, exclusive of the twelve major yearly holidays, as listed on the official State of New Jersey website, <https://www.state.nj.us/nj/about/facts/holidays/>

- B. Supplement Article 8.3 "Delays and Extension of Time" as follows:

8.3.4 The Contractor agrees that the Owner can deduct from the Contract Price, any wages paid by the Owner to any Inspector or Inspectors necessarily employed by the Owner for any number of days in excess of the number of days allowed in the specifications for completion of the work.

#### **1.5 NONDISCRIMINATION AND MISCELLANEOUS LABOR PROVISIONS**

- A. Attention is called to the following which supplement paragraph 13.1 "Antidiscrimination Provisions" as follows:

13.1.3 N.J.S.A. 10:2-1, Antidiscrimination provisions. Every contract for or on behalf of the State or any county or municipality or other political subdivision of the State, or any agency of or authority created by any of the foregoing, for the construction,

alteration or repair of any public building or public work or for the acquisition of materials, equipment, supplies or services shall contain provisions by which the contractor agrees that:

- a. In the hiring of persons for the performance of work under this contract or any subcontract hereunder, or for the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under this contract, no contractor, nor any person acting on behalf of such contractor or subcontractor, shall, by reason of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation or sex, discriminate against any person who is qualified and available to perform the work to which the employment relates;
- b. No contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee engaged in the performance of work under this contract or any subcontract hereunder, or engaged in the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under such contract, on account of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation or sex;
- c. There may be deducted from the amount payable to the contractor by the contracting public agency, under this contract, a penalty of \$50.00 for each person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the contract; and
- d. This contract may be canceled or terminated by the contracting public agency, and all money due or to become due hereunder may be forfeited, for any violation of this section of the contract occurring after notice to the contractor from the contracting public agency of any prior violation of this section of the contract.

No provision in this section shall be construed to prevent a board of education from designating that a contract, subcontract or other means of procurement of goods, services, equipment or construction shall be awarded to a small business enterprise, minority business enterprise or a women's business enterprise pursuant to N.J.S.A. 18A:18A-51 et seq.

During the performance of this contract, the contractor agrees to Mandatory Equal Employment Opportunity Language, as shown Exhibit B.

13.1.3 N.J.S.A. 34:11-56.25 et seq., in accordance with which the Contractor(s) and subcontractor(s) are required to do the following:

- .1 Pay to all workers engaged in the performance of services directly upon the work not less than the prevailing rate of wages. In the event that it is found that any

worker employed by the Contractor(s) or any subcontractor(s) has been paid a rate of wage less than the prevailing wage required to be paid by such contract, the Owner may terminate the contractor's right to proceed with the work or such part of the work as to which there has been a failure to pay required wages and to prosecute the work to completion or otherwise.

- .1 Prime Contractor(s) shall post the New Jersey Department of Labor and Workforce Development - Prevailing Wage Rate Determination in accordance with N.J.S.A. 34:11-56.25 et seq., which establish and enforce a prevailing wage level for workers engaged in the project, based on the effective date where the contract(s) is/are to be awarded. This document is to be posted in a prominent and easily accessible place at the site of the work and at such a place or places as are used to pay workers their wages. The prevailing wage rates shall be incorporated into the bid specification manual as a reference and part of the contract. A copy of the project's prevailing wage rates, as applicable to this Project, are on file at the Architect's office.
- .2 Before final payment, furnish Owner with an Affidavit stating that all workers have been paid in accordance with the New Jersey Prevailing Wage Act.
- .3 Keep an accurate record showing the name, craft or trade and actual hourly rate of wages paid to each workman employed by him/her in connection with his/her work. Preserve records for 2 years from date of payment.
- .4 Upon request, the Contractor(s) and each Subcontractor shall file written statements certifying to the amounts then due and owing to any and all workers for wages due on account of the work. The statement shall set forth the names of the persons whose wages are unpaid and the amount due to each. These statements shall be verified by the oaths of the Contractor(s) or subcontractor(s), as the case may be.

#### **1.6 AMERICANS WITH DISABILITIES ACT; FACILITIES FOR PERSONS WITH DISABILITIES**

- A. The contractor must comply with all provisions of Title II of the Americans with Disabilities Act (ADA), P.L. 101-336, in accordance with 42 U.S.C. §121.01 et seq. The Board of Education further recognizes that all specifications for the construction, remodeling or renovation of any public building shall provide facilities for persons with disabilities. Reference: N.J.S.A. 18A:18A-17.
- B. It is further recommended that bidders are required to read the Americans with Disabilities language form that is included in these specifications. The form shall be signed to show agreement with the provisions of Title II of the Act and the provisions are to be made a part of the contract. The signed form shall be submitted with the bid proposal. The contractor is obligated to comply with the Act and to hold the owner harmless.

## **1.7 AMERICAN GOODS AND PRODUCTS**

- A. Supplement Paragraph 13.1 "Governing Law" as follows:

13.1.5 N.J.S.A. 18A:18A-20 et seq., American goods and products to be used where possible. Each board of education shall provide as a condition of the Contract that only manufactured and farm products of the United States, where ever available, be used in the work.

## **1.8 PAYMENTS TO LISTED SUBCONTRACTORS UNDER SINGLE OVERALL CONTRACT**

- A. Supplement Paragraph 13.1 "Governing Law" as follows:

13.1.6 N.J.S.A. 18A:18A-18, providing that under a single overall contract, all payment required to be made for work and materials supplied by the various subcontractors shall, upon certification by the Prime Contractor of the amount due to the subcontractor(s), be paid directly to the subcontractor(s).

## **1.9 POLITICAL CONTRIBUTION DISCLOSURE FORM**

- A. In accordance with N.J.S.A. 19:44A-20.26 "pay to play," Contracts exceeding \$17,500.00 are not to be entered into with business entities unless certain disclosures are made about political contributions.

1. In accordance with N.J.S.A. 19:44A-20.26 Contractor shall be required to disclose political contributions made, if any, ten (10) days before entering into Contract in accordance with C.271 form. All bidders must complete this form and submit with Bid Proposal Forms.

- B. In accordance with N.J.A.C. 6A:23A-6.3, No district board of education shall vote upon or award any contract in the amount of \$17,500 or greater to any business entity that has made a contribution reportable by the recipient under N.J.S.A. 19:44A-1 et seq., to a member of the district board of education during the preceding one-year period.

1. Contributions reportable by the recipient under N.J.S.A. 19:44A-1 et seq., to any member of the district board of education from any business entity doing business with the school district shall be prohibited during the term of a contract.

2. The disclosure requirement set forth in N.J.S.A. 19:44A-20.26 also shall apply when the contract is required by law to be publicly advertised for bids.

## **1.10 PROMPT PAYMENT ACT**

- A. The Owner will issue timely payments to Contractors in accordance with the requirements of the Prompt Payment Act, N.J.S.A. 2A:30A-1, et seq. The bidders are hereby notified that the Owner as a public entity requires all payments to be approved at scheduled public board meetings. The vote on authorization for payments will be made at the first public meeting of the Board following the Board's receipt of the architect's authorization for payment and paid during the subsequent payment cycle.

## 1.11 NEW JERSEY DEPARTMENT OF TREASURY

### A. Disclosure of Investment Activities in Iran

1. Pursuant to Public Law 2012, c.25 (N.J.S.A.52:32-55, et. seq.), any person or entity (“bidder”) that submits a bid or proposal or otherwise enters into or renews a contract with a board of education is required to disclose if it is engaged in investment activities in Iran. In order to comply with the provisions of P.L. 2012, c. 25, all bidders are required to complete a certification that attests that neither the bidder, nor any of its parents, subsidiaries and/or affiliates is listed on the list developed by the New Jersey Department of Treasury’s List of Persons or Entities Engaging in Prohibited Investment Activities in Iran, pursuant to section 3 of P.L.2012, c. 25 (N.J.S.A. 52:32-57). The Department of Treasury List is available at <http://www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf>. A copy of the list is attached for informational purposes. All bidders are advised to refer to the most current version of the list to ensure compliance with P.L. 2012, c. 25.
2. If the bidder is unable to certify compliance with the law, the bidder shall provide a detailed and precise description of such investment activities as described in N.J.S.A. 52:32-56(f).
3. If the board determines that a person or entity submits a false certification concerning its engagement in investment activities in Iran under N.J.S.A. 52:32-58, the board shall report to the New Jersey Attorney General the name of that person or entity. The Attorney General shall determine whether to bring a civil action against the person or entity to collect the penalty prescribed in N.J.S.A. 52:32-59.

### B. N.J.S.A. 18A:18A-49.4 Civil action brought on behalf of Board of Education.

1. 8.a. A Board of Education as defined in and subject to the provisions of the “Public School Contracts Law, N.J.S.A. 18A:18A-1 et seq., shall implement and comply with the provisions of P.L.2012, c.25 (C.52:32-55 et al.), except that the Board shall rely on the list developed by the State Department of the Treasury pursuant to N.J.S.A. 52:32-57.
2. 8.b. If the Board determines that a person or entity has submitted a false certification concerning its engagement in investment activities in Iran under N.J.S.A. 52:32-58, the Board shall report to the New Jersey Attorney General the name of that person or entity, and the Attorney General shall determine whether to bring a civil action against the person to collect the penalty prescribed in N.J.S.A. 52:32-59. The Board may also report to the Board’s attorney the name of that person, together with its information as to false certification, and the Board’s attorney may determine to bring such civil action against the person to collect such penalty.

## 1.12 EQUAL EMPLOYMENT OPPORTUNITIES AND AFFIRMATIVE ACTION

- A. Bidders are required to comply with the requirements of N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27 et seq.
- B. Initial Project Workforce Report - Construction (AA201)
  - 1. In accordance with the requirements of the New Jersey Department of Labor & Workforce Development Construction EEO Compliance Monitoring Unit, the Initial Project Workforce Report-Construction(AA201)document, must be submitted to the Public Agency that awards the contract and the Department of Labor & Workforce Development Construction EEO Compliance Monitoring Program after notification of award, but prior to signing the contract.

[https://www.nj.gov/treasury/contract\\_compliance/documents/pdf/guidelines/pa.pdf](https://www.nj.gov/treasury/contract_compliance/documents/pdf/guidelines/pa.pdf)

## 1.13 OFFICE OF THE STATE COMPTROLLER

- A. N.J.A.C. 17:44-2.2: Authority to Audit or Review Contract Records
  - 1. Relevant records of private vendors or other persons entering into contracts with covered entities are subject to audit or review by the Office of the State Comptroller (OSC) pursuant to N.J.S.A. 52:15C-14(d).
    - a. (The contract partner) shall maintain all documentation related to products, transactions or services under this contract for a period of **five (5) years** from the date of final payment. Such records shall be made available to the New Jersey Office of the State Comptroller upon request.
- B. Contractor/Vendor Requirements-Office of the New Jersey State Comptroller
  - 1. Contractors/vendors doing business with the board of education are reminded of the following legal requirements pertaining to the Office of the New Jersey State Comptroller:
    - a. Access to Relevant Documents and Information - N.J.S.A. 52:15C-14 (d)
      - 1) Private vendors or other persons contracting with or receiving funds from a unit in the Executive branch of State government, including an entity exercising executive branch authority, independent State authority, public institution of higher education, or unit of local government or board of education shall upon request by the State Comptroller provide the State Comptroller with prompt access to all relevant documents and information as a condition of the contract and receipt of public monies. The State Comptroller shall not disclose any document or information to which access is provided that is confidential or proprietary. If the State Comptroller finds that any person receiving funds from a unit in the Executive branch of State government, including an entity exercising executive branch authority, independent State authority, public institution of higher education, or

unit of local government or board of education refuses to provide information upon the request of the State Comptroller, or otherwise impedes or fails to cooperate with any audit or performance review, the State Comptroller may recommend to the contracting unit that the person be subject to termination of their contract, or temporarily or permanently debarred from contracting with the contracting unit.

- b. Maintenance of Contract Records - N.J.A.C. 17:44-2.2
  - 1) Relevant records of private vendors or other persons entering into contracts with covered entities are subject to audit or review by OSC pursuant to N.J.S.A. 52:15C-14(d).
  - 2) The contractor/vendor to whom a contract has been awarded, shall maintain all documentation related to products, transactions or services under this contract for a period of five years from the date of final payment. Such records shall be made available to the New Jersey Office of the State Comptroller upon request.

#### **1.14 ANTI-BULLYING BILL OF RIGHTS ACT (P.L. 2010.C.122)**

A. N.J.S.A. 18A:37-16 provides:

- 1. A member of a board of education, school employee, student or volunteer shall not engage in reprisal, retaliation or false accusation against a victim, witness or one with reliable information about an act of harassment, intimidation or bullying.
- 2. A member of a board of education, school employee, contracted service provider, student or volunteer who has witnessed, or has reliable information that a student has been subject to, harassment, intimidation or bullying shall report the incident to the appropriate school official designated by the school district's policy, or to any school administrator or safe schools resource officer, who shall immediately initiate the school district's procedures concerning school bullying.
- 3. A member of a board of education or a school employee who promptly reports an incident of harassment, intimidation or bullying, to the appropriate school official designated by the school district's policy, or to any school administrator or safe schools resource officer, and who makes this report in compliance with the procedures in the district's policy, is immune from a cause of action for damages arising from any failure to remedy the reported incident.
- 4. A school administrator who receives a report of harassment, intimidation, or bullying from a district employee, and fails to initiate or conduct an investigation, or who should have known of an incident of harassment, intimidation, or bullying and fails to take sufficient action to minimize or eliminate the harassment, intimidation, or bullying, may be subject to disciplinary action.

#### **1.15 CONTROLLING SILICA EXPOSURES IN CONSTRUCTION**

A. Occupational Safety and Health Administration (OSHA) - U.S. Department of Labor: OSHA 29 CFR 1926.1153, 2017.

1. The above referenced guidance advisory document is not a standard or regulation, and it creates no new legal obligations. The document is advisory in nature, informational in content, and is intended to assist employers in providing a safe and healthful workplace. The Occupational Safety and Health Act requires employers to comply with safety and health standards promulgated by OSHA or by a state with an OSHA approved state plan. In addition, pursuant to Section 5(a)(1), the General Duty Clause of the Act, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Employers can be cited for violating the General Duty Clause if there is a recognized hazard and they do not take reasonable steps to prevent or abate the hazard. However, failure to implement any specific recommendations contained within this document is not, in itself, a violation of the General Duty Clause. Citations can only be based on standards, regulations, and the General Duty Clause.
  - a. This guidance document addresses the control of employee exposures to respirable dust containing crystalline silica, which is known to cause silicosis, a serious lung disease, as well as increase the risk of lung cancer and other systemic diseases.
  - b. This document provides information on the effectiveness of various engineering control approaches for several kinds of construction operations and equipment, and contains recommendations for work practices and respiratory protection, as appropriate.
  - c. OSHA encourages employers to conduct periodic exposure monitoring to confirm that engineering and work practice controls are effective and that appropriate respiratory protection is being used where necessary.
2. The above referenced advisory document can be found at:  
[https://www.osha.gov/dsg/topics/silicacrystalline/construction\\_info\\_silica.html](https://www.osha.gov/dsg/topics/silicacrystalline/construction_info_silica.html)

#### **1.16 CERTIFICATION OF NON-DEBARMENT FOR FEDERAL GOVERNMENT CONTRACTS**

1. Pursuant to N.J.S.A. 52:32-44.1, any natural person, company, firm, association, corporation, or other entity prohibited, or "debarred," from contracting with the federal government agencies, shall also be prohibited from contracting for public work in the state of New Jersey. This prohibition also extends to any affiliate organization(s) held by or subject to the control of an entity of that prohibited person or entity.
2. Prior to awarding a contract for public work, a local units must obtain written certification from the contracting person or entity through the form (Certification of Non-Debarment for Federal Government Contracts, N.J.S.A. 52:32-44.1 (P.L. 2019, c406), attesting to their non-debarment from contracting with federal government agencies.

**END OF SECTION 00860**

**FVHD-5295**

**1:00860-10**



## **SECTION 00870 - MISCELLANEOUS REQUIREMENTS**

### **PART 1 - GENERAL**

#### **1.1 JOB SITE MEETINGS**

- A. Regularly scheduled job meetings shall be held at a location and time convenient to the Owner's representatives, the Architect and the Contractor. The Prime Contractor shall attend such meetings, or be represented by a person in authority who can speak for and/or make decisions for the Contractor.
- B. Attendance by the Contractor is mandatory, whether the meetings are weekly, bi-weekly or at whatever interval is determined by the Architect.
  - 1. Unless given prior approval by the Architect, the Prime Contractor will be fined \$250.00 for each regularly scheduled meeting for which he/she is not presented by a person in authority who can speak for and/or make decisions for the Contractor. Fine amounts shall be withheld and deducted from the Contract Sum.

#### **1.2 STRUCTURAL SAFETY STANDARDS AND CODES**

- A. The standards, codes and design data referred to in the New Jersey "State Uniform Construction Code", apply to the work of the Contract, where applicable.
- B. Contractor shall comply with all applicable requirements of the Uniform Fire Safety Act, N.J.S.A. 52:27D-192 et seq.

#### **1.3 OWNER'S RIGHT TO OCCUPY**

- A. The Owner reserves the right to occupy any portion of the Project which is ready for occupancy prior to completion and acceptance of the Project, after Local Municipal Construction Enforcing Agency approval.
- B. The occupancy of any portion of the Project does not constitute an acceptance of any work nor does it waive the Owner's right to liquidated damages or constitute an acceptance of any work as the Project will be accepted as a whole and not in units. Prior to such occupancy, however, the Architect, a representative of the Owner, and the Contractor shall fully inspect the portions of the Project to be occupied, preparing a complete list of omissions of materials, faulty workmanship, or any items to be repaired, torn out or replaced. The Owner will assume responsibility for damage to premises so occupied of any items not on this list when such damage is due to greater than normal wear and tear, but does not assume responsibility for improper or defective workmanship or materials.

## **1.4 OWNER'S GENERAL REQUIREMENTS**

- A. The Owner requires that the Contractor demonstrate a safety and health program/plan, which includes, but is not limited to first aid, fire protection, housekeeping, illumination, sanitation, personal protective equipment, medical, exit, emergency action plans and all other issues required by government agencies having jurisdiction over the work of this project.
- B. The following Owner's General Requirements shall be enforced during construction and until final completion of the work:
  - 1. All construction materials and equipment shall be stored behind the construction fence.
  - 2. No smoking on any of the School's Property.
  - 3. All workers must wear shirts at all time.
  - 4. Use of profanity will not be tolerated.
  - 5. The Prime Contractor shall provide identification cards for his/her subcontractors, employees, etc.
  - 6. The Contractor shall comply with the requirements of all local ordinances including for noise.
  - 7. The Contractor and his/her subcontractors shall not interact with students or staff, other than those identified by the Owner as a representative of the Owner.

## **1.5 ENVIRONMENTAL PROTECTION**

- A. Conform to New Jersey Department of Environmental Protection Regulations N.J.A.C. 7:27, sub-chapters 5 and 7 and all other applicable standards.
- B. Conform to New Jersey Statute N.J.S.A. 26:2C-9.2 which requires that no person shall construct, install, alter or operate any equipment capable of causing the emission of air contaminants into the open air or control apparatus which prevents or controls the emission of air contaminants until an application has been filed with and approved by the Department of Environmental Protection.

## **1.6 CERTIFIED PAYROLLS**

- A. Pursuant to N.J.A.C. 12:60-5.1(c)(1)(i), the Contractor shall furnish to the Owner certified payroll records each payroll period within ten (10) days of the payment of wages, indicating name, craft, social security number and actual hourly rate of wages paid to each worker employed on the project. A certified payroll record is defined as "a payroll record which is attested to by the employer, or a corporate officer of such company, or an authorized agent of the employer."

## **1.7 OPERATION AND MAINTENANCE**

- A. Contractor shall furnish to the Owner all required operation and maintenance manuals for all included materials and equipment as well as assistance and training to the Owner's personnel for contract's special systems and equipment in accordance with Contract Documents.

**END OF SECTION 00870**

## **SECTION 01010 - SUMMARY OF WORK**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. The work of this Section applies to all Construction Contract Documents including drawings, Division 1 - Miscellaneous Requirements Sections, and Specifications Sections.

#### **1.2 SUMMARY**

- A. Section Includes:
  - 1. Project description.
  - 2. Contract scope description.
  - 3. Contractor's use of the premises.
  - 4. Preconstruction meeting.
  - 5. Security procedures.

#### **1.3 PROJECT DESCRIPTION**

- A. The project consists of the Window Replacement and Related Work at Administration Building for the Hopewell Valley Regional School District, Board of Education, Mercer County, New Jersey.
- B. Contract Documents prepared by Fraytak Veisz Hopkins Duthie, P.C. Architects / Planners, (Project Number: FVHD-5295).

#### **1.4 CONTRACT SCOPE DESCRIPTION**

- A. The work consists of but is not limited to the following:
  - 1. Remove and replace the existing windows with aluminum frame windows with tinted insulated glazing and security window film in the first floor level windows, as indicated on the drawings.
  - 2. Remove indicated areas of existing brick masonry to facilitate the installation of new galvanized steel lintels, through wall flashing and weepholes and all associated work, as indicated on the drawings.
  - 3. Remove existing abandoned unit ventilator grilles, infill wall opening with rigid insulation (painted black), provide new wall grille to match the existing and all associated work, as indicated on the drawings.
  - 4. Provide and install new solid surface interior window sills, as indicated on the drawings.

5. Scrape, prime and paint the existing decorative exterior door and window moldings and all associated work, as indicated on the drawings.
6. Provide and install new EPDM rising wall membrane flashing, pre-finished aluminum counterflashing and all associated work, as indicated on the drawings.
7. Provide and install new metal stud wall, gypsum board, rubber base and all associated work, as indicated on the drawings.
8. All other indicated work.

B. Alternate Bids:

1. Alternate Bid No. 1: Insulated Security Glazing

C. Single Overall Contract: This contract includes:

1. All work in accordance with drawings, Parts 2 Specification Sections and in accordance with Contract Documents.
2. General Construction Work includes:
  - a. Work that is primarily architectural in nature plus work traditionally recognized as general construction in accordance with drawings and as listed as a part of Part 2 specification sections, unless otherwise indicated below:
    - 1) Also includes both administrative and coordination responsibilities.
      - a) General Construction Contractor is responsible for all coordination between his/her work and work of all Subcontractors.
    - 2) Provide and install the Miscellaneous Structural Steel.
    - 3) Provide and install the metal fabrications in accordance with Division 2 Sections.
    - 4) Perform all existing roof repair work, and base flashing work associated with General Construction Work, where indicated or required.

## 1.5 WORK BY OTHERS

- A. Where indicated or shown, the Owner will remove the existing window shades, blinds and curtains prior to the start of construction.

## 1.6 CONTRACTOR'S USE OF THE PREMISES

- A. The space available to the Contractor for the performance of the work, either exclusively or in conjunction with others performing other construction as part of the project, is shown on the drawings.
  1. Other areas are off limits to all construction personnel.

- B. The following building facilities may not be used by construction personnel:
  - 1. Toilet facilities.
  - 2. Food service facilities, including dining areas.
- C. The Owner may partially occupy the building during the construction period.
  - 1. The Owner will endeavor to cooperate with the Contractor's operations when the Contractor has notified the Owner in advance of need for changes in operations in order to accommodate construction operations.
  - 2. Conduct the work so as to cause the least interference with the Owner's operations.
- D. Coordinate with Local Authorities as to which routes are capable of handling heavy truck traffic.
- E. Signs: Provide signs adequate to direct visitors.
  - 1. Do not install, or allow to be installed, signs other than specified sign(s) and signs identifying the principal entities involved in the project.
- F. All deliveries by the Contractor shall be coordinated with the Owner's Representative, prior to the delivery date.
- G. Due to COVID-19 and New Jersey Executive Orders EO107 and LFN2020-10, Contractors are required to provide Personal Protection Equipment, practice social distancing and hand washing at all times indoors/outdoors.

## **1.7 PRECONSTRUCTION MEETING**

- A. A preconstruction meeting will be held at a time and place designated by the Architect for the purpose of identifying responsibilities of the Owner's / Architect's personnel and explanation of administrative procedures.
- B. The Contractor shall also use this meeting for the following minimum agenda:
  - 1. Construction schedule.
  - 2. Use of areas of the site.
  - 3. Delivery and storage.
  - 4. Safety.
  - 5. Security.
  - 6. Cleaning up.
  - 7. Subcontractor procedures relating to:
    - a. Submittals.
    - b. Change orders.
    - c. Applications for payment.
    - d. Record documents.

C. Attendees shall include:

1. The Owner / Owner's Representative.
2. The Architect, and any Consultants.
3. The Prime Contractor and his / her superintendent.
4. Major subcontractors, suppliers, and fabricators.
5. Others interested in the work.

**1.8 SECURITY PROCEDURES**

- A. Limit access to the site and building to persons involved in the work.
- B. Provide secure storage for materials for which the Owner has made payment and which are stored on site.
- C. Secure completed work as required to prevent loss.
- D. The Contractor and their employees, will be required to be registered with the Owner's Representative / School's Main Office.
  1. The Contractor's personnel and Subcontractors will be required to wear identification badges at all times on the site.

**END OF SECTION 01010**

## SECTION 01020 - ALLOWANCES

### PART 1 - GENERAL

#### 1.1 DESCRIPTION OF REQUIREMENTS

- A. Definitions and Explanations: Certain requirements of the work related to each allowance are shown and specified in the contract documents. The allowance has been established in lieu of additional requirements for that work, and further requirements thereof (if any) will be issued by change order.
- B. The type of allowances scheduled herein for the work include the following:
1. Lump sum allowances.
- C. Selection and Purchase: At the earliest feasible date after the award of the Contract, advise the Architect of the scheduled date when the final selection and purchase of each product or system described by each Allowance must be accomplished in order to avoid delays in the performance of the work. Obtain and submit proposals for the work of each Allowance, as required by the Architect for use in making the final selections; include whatever recommendations for selection may be relevant to the proper performance of the work. Purchase products and systems as specifically selected (in writing) by the Architect.
1. Submit proposals and recommendations, for the purchase of the products or systems of Allowances, in the form specified for change orders.
- D. Change Order Data: Where applicable, include in each change order proposal both the quantity of the products being purchased and the unit cost, along with the total amount of the purchase to be made. Where requested, furnish survey-of-requirements data to substantiate the quantity. Indicate applicable taxes, delivery charges, and amounts of applicable trade discounts.
- E. Lump-Sum Allowances: The amounts herein specified are the net amounts available for purchase of the materials specified, including taxes (if any), and each change order amount shall be based thereon. **All other costs associated with the performance of the work under the Allowance, including but not limited to insurance, storage, handling, overhead, profit, etc., are not a part of the allowance, and shall be included in the lump sum bid / or base bid Contract amount.**
1. In the event the actual purchase amount of materials, plus taxes (if any) exceeds the specified allowance, the Owner will pay the excess; should the actual purchase amount, plus taxes (if any) be less than the specified Allowance, the Contractor shall credit the Owner with the difference.
  2. The actual purchase amount, plus taxes (if any) shall be substantiated by certified bills of sale to be submitted with the change order.



- F. Change Order Mark-Up: Except as otherwise indicated, comply with the provisions of the General Conditions and the Supplementary General Conditions.
- G. Excess Materials: Submit invoices or delivery slips to indicate the actual quantities of materials delivered to the site for use in fulfillment of each allowance. Where economically feasible, and so requested by the Architect, return unused materials to the manufacturer/supplier for credit to the Owner, after the installation has been completed and accepted. Where not economically feasible to return for credit, and so requested by the Architect, prepare unused materials for the Owner's storage, and delivery to the Owner's storage space as directed. Otherwise, disposal of excess materials is the Contractor's responsibility.

## **1.2 SCHEDULE OF ALLOWANCES**

- A. General: The following allowance amounts is included in the Contract Sum, for the corresponding units of work as described.
  - 1. General Construction Work
    - a. A sum of **\$50,000.00** for work not specifically shown on the drawings, the work shall be performed as directed in the field.

**END OF SECTION 01020**

## SECTION 01030 - ALTERNATE BIDS

### PART 1 - GENERAL

#### 1.1 PROCEDURE FOR ALTERNATE BIDS

- A. Each Bidder shall submit on the Proposal Form, all Alternate Bids applicable to the work under his/her bid. Alternate Bids shall state the difference in price as "additions to" or "deductions from" the Base Bid, unless otherwise noted, for the substitution, omission, or addition of the following materials, items or construction from that shown and specified.
- B. The Alternate Bids, when accepted, become part of the Contract.
- C. Each Bidder shall carefully check the Drawings and Specifications to determine the extent of each Alternate Bid required.
- D. Alternate Bids shall include all overhead and profit applicable thereto.
- E. Alternate Bids shall reflect the increase or decrease in cost of all work of every name and nature which may be affected thereby and no subsequent claims for extras by reason of the Contractor's failure to observe this requirement will be considered.
- F. The description herein for each Alternate Bid is recognized to be incomplete and abbreviated, but implies that each change must be complete for the scope of work affected. Refer to applicable specification sections and to applicable drawings, for specific requirements of the work, regardless of whether references are so noted in description of each Alternate Bid. Coordinate related work and modify surrounding work as required to properly integrate with the work of each Alternate Bid. It is recognized that descriptions of Alternate Bids are primarily scope definitions, and do not necessarily detail full range of materials and processes needed to complete the work as required.
- G. Except as otherwise described or approved, materials and workmanship of the Alternate Bids shall conform to the requirements specified under the various sections of the Specifications for similar items of work.
- H. Where methods of construction, materials, finishes or details of installation required by the various Alternate Bids differ from the requirements shown on the drawings or specified for corresponding items, the alternate construction, materials, etc. will be subject to approval by the Architect.
- I. The Contractor shall submit shop drawings and samples for the work under each accepted Alternate Bid for approval in conformance with requirements specified for submittals in both Part 1, AIA Document A201 and Section 00800 - Supplementary General Conditions.

- J. The following Alternate Bids shall apply to single overall bids, and must be included in the Bidder's Proposal.

## **1.2 ALTERNATE BIDS - GENERAL CONSTRUCTION WORK**

### **A. Alternate Bid No. 1: Insulated Security Glazing**

State the amount to be added to or deducted from the base bid to provide and install insulated security glazing on the First Floor windows in lieu of installing security window film (SWF) on the window glazing, where indicated on the drawings.

**END OF SECTION 01030**

## **SECTION 01040 - COORDINATION**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. The work of this Section applies to all Construction Contract Documents including drawings, Division 1 - Miscellaneous Requirements Sections, and Specifications Sections.

#### **1.2 REQUIREMENTS INCLUDED**

- A. Coordination of submittals.
- B. Coordination meetings.
- C. Coordination drawings.
- D. Coordination of project closeout.
- E. Administrative/supervisory personnel.
- F. Coordination of trades.
- G. Coordination of space.
- H. Coordination of field measurements and field conditions.

#### **1.3 GENERAL REQUIREMENTS**

- A. Contractor shall coordinate his/her activities with the activities of other subcontractors and work performed by others.
- B. If necessary, inform each party involved, in writing, of procedures required for coordination; include requirements for giving notice, submitting reports, and attending meetings.
  - 1. Inform the Architect when coordination of his/her work is required.

#### **1.4 COORDINATION OF SUBMITTALS**

- A. Coordinate and correlate the submittals on each work item and on interrelated work items to ensure their timeliness, completeness, consistency, compatibility and compliance with the Contract Documents.
- B. Prepare and submit special coordination drawings where close and careful coordination of information is required for proper fabrication or installation of

materials, products or equipment by separate entities. Coordination drawings may also be required where limited space availability necessitates close and careful coordination for efficient and proper installation of different components.

1. Show interrelationships of components shown on separate shop drawings.
  2. Indicate required installation sequences.
- C. Coordinate any request for substitution to ensure compatibility of its space requirements, its operating characteristics and elements and its effects on other work. Prior to proposing a substitution for any item, verify that its size, configuration, supports and connections will coordinate with all other work and that it will fit within the allotted space while allowing for proper operating, maintenance and circulation space.
1. Comply with requirements for requests for submittal of substitution indicated in AIA A201 and Section 00800.

## **1.5 COORDINATION MEETINGS**

- A. The General Construction Work Contractor shall hold additional coordination meetings and conferences with other prime work contractors, subcontractors and others involved in the Work as needed to ensure coordination of work.
1. Notify the Architect of such coordination meetings.
- B. Regular project site meetings shall be in accordance with Sections 00870 and 01200.

## **1.6 COORDINATION OF TRADES**

- A. Coordinate construction activities included under various sections of these Specifications to ensure efficient and orderly installation of each part of the Work and to prevent interferences among parts of the Work. Coordinate work items and construction operations included under different sections of the Specifications that are dependent upon one another for proper installation, connection and operation.
1. Where installation of one part of the Work is interrelated with installation of other components, schedule construction activities in the sequence required to obtain the best results.
  2. Where availability of space is limited, coordinate installation of different components to prevent interferences and to ensure proper accessibility for required maintenance, service and repair.
  3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Where necessary, prepare memoranda outlining special procedures required for coordination. Include such items as required notices, reports and attendance at

meetings. Distribute these coordination memoranda to all parties involved in the work being coordinated.

1. Prepare similar memoranda for the Owner and other Contractor(s) where coordination with construction or operations by them is required.
  2. Provide copies of such coordination memoranda to the Architect.
- C. Coordinate the scheduling and timing of required administrative activities with other construction activities to avoid conflicts and ensure orderly progress of the Work. Administrative activities include:
1. Preparation and updating of schedules.
  2. Preparation and processing of submittals.
  3. Preparation and processing of requests for information.
  4. Project meetings.
  5. Testing and inspection activities.
  6. Project close-out activities.

## **1.7 COORDINATION OF SPACE**

- A. Coordinate use of available space and sequence of installation for work which is indicated diagrammatically or schematically on the drawings. Prevent physical interference of components. Utilize space efficiently to ensure proper installations (including installation of other work).
1. Detailed drawings of proposed departures from spatial arrangements or locations indicated in the Contract Documents, due to field conditions or other causes, shall be submitted to the Architect for review. No such departures shall be made without prior review by the Architect.
  2. Where required for coordination, the Architect will have the authority to order, as changes in the Work, changes in locations and sizes. Such changes shall be made without adjustment to the Contract Sum or Contract Time.
- B. Field verify measurements of existing items and work which precedes each sequence. Ensure proper fit and location.

## **1.8 COORDINATION OF FIELD MEASUREMENTS AND FIELD CONDITIONS**

- A. Prior to ordering materials or equipment or performing work, the Contractor and/or Subcontractors shall verify Contract Document and submittal dimensions and weights affecting their work and Subcontractor's work associated with field measurements and field conditions at the project site, and shall be responsible for their accuracy and correctness.

- B. Differences discovered from dimensions or weights indicated in the Contract Documents or submittals shall be submitted in writing to the Architect for review, before proceeding with the work.
- C. Commencing work implies acceptance of surfaces, areas, preceding work and other field conditions, and verification of dimensions, by the Contractor.
- D. No Change Order will be issued in cases where discrepancies in dimensions are discovered after work has been commenced or where the Contractor has failed to properly investigate and take into account field measurements and existing field conditions.

## **1.9 COORDINATION DRAWINGS**

- A. General Requirements: Prepare coordination drawings where limited space available may cause conflicts in the locations of installed products, and where required to coordinate installation of products.
  - 1. All work on the coordination drawings shall be performed by a competent draftsmen and shall be clear and fully legible. The Architect shall be the judge of the legibility of the composite drawings.

## **1.10 COORDINATION OF PROJECT CLOSEOUT**

- A. Coordinate completion and clean-up work and administrative activities in preparation for Substantial Completion and occupancy of the Work or of designated portions of the Work.
- B. After Owner occupancy, coordinate access for completion or correction of the work not in conformance with the Contract Documents to minimize disruption of Owner's activities.
- C. Assemble and coordinate closeout submittals specified in Section 01700.

## **1.11 REQUIRED ADMINISTRATIVE/SUPERVISORY PERSONNEL**

- A. General: In addition to the other administrative and supervisory personnel required for the performance of the Work, the Prime Contractor shall provide specific coordinating personnel as specified herein.
- B. Project Manager / Superintendent: A full time on site Project Manager, with a recommended minimum of eight (8) years experience, including project management experience on a similar type of projects.
  - 1. The Contractor for General Construction Work shall provide a full-time staff member or members, (Project Manager/Superintendent), experienced in coordination of work on projects of this type and scale, including administration and supervision.

## **1.12 COORDINATION OF TRADES**

- A. Coordinate work with other trades to eliminate any possible interference before any work is installed.

## **1.13 COORDINATION OF SPACE, FIELD MEASUREMENTS AND FIELD CONDITIONS**

- A. Inspection of Conditions: Require the Installer of each major component to inspect both substrate and conditions under which his/her work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Recheck measurements and dimensions, before starting each installation.
  - 1. Submit to the Architect for review any change in dimensions shown on the Contract Documents or submittals affecting physical size, shape or location of any part of the work, whether due to field conditions or other causes.
- C. Provide attachment and connection devices and methods necessary for securing work. Secure work true to line and level. Allow for expansion and building movement.
- D. Provide all appropriate structural supports, and associated assemblies which include but are not limited to materials, and finishes. This work shall be in conformance with requirements of the Contract Documents whether or not indicated by a reference in specification or as may be in detail shown on drawings and schedules.
- E. Visual Effects: Provide uniform joint widths in exposed work. Arrange joints in exposed work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.
- F. Install each component during weather conditions and construction status that will ensure best possible results. Isolate each part of completed construction from incompatible material as necessary to prevent deterioration.
- G. Coordinate temporary enclosures with required inspections and tests, to minimize necessity of uncovering completed construction for that purpose.

**END OF SECTION 01040**



## SECTION 01050 - ALTERATIONS, CUTTING, PATCHING AND REFINISHING WORK

### PART 1 - PRODUCTS

#### 1.1 RELATED DOCUMENTS

- A. The work of this Section applies to all Construction Contract Documents including drawings, Division 1 - Miscellaneous Requirements Sections, and Specifications Sections included in Part-2 through Part-6.

#### 1.2 DESCRIPTION

- A. Work included: Alterations, removals and demolition required for this work include, but are not necessarily limited to:
  - 1. Alterations, cutting, patching, removal and preparation work to be done as noted on drawings and as required to complete construction.
  - 2. Patching and refinishing of existing surfaces damaged or left unfinished as a result of this work, including site work and existing ground surfaces; concrete surfaces, bituminous paving surfaces, etc.
  - 3. Protection.
    - a. Due to COVID-19 and New Jersey Executive Orders EO107 and LFN2020-10, Contractors are required to provide Personal Protection Equipment, practice social distancing and hand washing at all times indoors/outdoors.
  - 4. Asbestos.
    - a. The Contractor shall review and familiarize themselves with the Owners Asbestos Hazard Emergency Response Act (AHERA) report prior to the commencement of any demolition activity. Also, the Contractor will be provided with an inventory of all ACM (Asbestos Containing Materials) in the buildings where they are working, and will be required to sign a form (provided by the Owner) that they are in receipt of the inventory.
    - b. Contractor is herein cautioned that asbestos may be within concealed spaces where work will be taking place. The Contractor shall immediately notify the Owner if any concerns or conditions arise in regards to potential asbestos containing building materials (ACBM's) in order that the owner may verify same and take appropriate action. The Contractor shall not proceed with the work until the material has been abated and air sampling clearance levels have been achieved as set forth by the Owner's Environmental Consultant.
    - c. The Contractor shall employ personnel who are trained in accordance with OSHA workplace standards as they pertain to asbestos.
    - d. **The Architect / Engineer has no authority or professional involvement relative to the hazardous material/asbestos removal or disposal phase**

**for this project and are not available for questions and/or direction in this regard. The hazardous material/ asbestos reference is included as a convenience for the Owner, and the Architect accepts no responsibility nor liability for the accuracy of information, bidders conclusions, methods to be used, nor for any aspect of approvals required by the Contractor in undertaking and completing this project insofar as hazardous material/asbestos is concerned. The Contractor shall direct any/all questions and concerns to the Owners Hazardous Material Abatement Consultant.**

- e. Worker and Community Right to Know Act Requirements
  - 1) It is required that the Contractor and/or Subcontractors comply with all of the requirements of HAZCOM 2012 and New Jersey Right To Know (RTK) program. General Contractor is responsible for ensuring that containers of substances belonging to the Contractor and/or Subcontractors that are stored at the Owner's facility are properly RTK labeled. Refer to N.J.A.C. 8:59-5.10.
  - 2) Surveys of hazardous substances stored at the Owner's facility by the Contractor and/or Subcontractor are to be provided to the Owner of the facility. Refer to N.J.A.C. 8:59-2.2(h).
  - 3) Material Safety Data Sheets (MSDS) and/or Safety Data Sheets (SDS) from manufacturers must be provided to the Owner for all products present at, purchased for, and brought on site by Contractors and/or Subcontractors to the Owner's facility. Refer to N.J.A.C. 8:59-2.2(1).
  - 4) Contractor and/or all Subcontractors must submit, prior to starting any work, a copy of their approved Hazard Communication Plan - 29 CFR 1910.1200.
- 5. This project shall be subject to the requirements of the EPA "Renovation, Repair and Painting" rule including the following:
  - a. The Contractor must be lead safe trained and certified. The Contractor will be required to submit a copy of their EPA certificate prior to the start of the work.
  - b. The Contractor shall provide the Owner with a copy of the EPA's Lead Hazard Management information pamphlet "Renovate Right-Important Lead hazard Information for Families, Child Care Providers and Schools" prior to the start of any renovation work. The Contractor shall have the Owner sign a pre-renovation disclosure form confirming receipt of the pamphlet.
  - c. The Contractor shall at all times employ lead safe practices as identified in the rules.
- 6. This project shall be subject to the requirements of the EPA rules on diesel exhaust and off-site particulate dust, including the following:
  - a. Diesel exhaust contributes the highest cancer risk of all air toxics in New Jersey and is a major source of NOx within the state. Therefore, per NJ DEP recommendations, construction projects involving non-road diesel construction equipment operating in a small geographic area over an

extended period of time shall implement the following measures to minimize the impact of diesel exhaust:

- 1) All on-road vehicles and non-road construction equipment operating at, or visiting, the construction site shall comply with the three minute idling limit, pursuant to N.J.A.C. 7:27-14 and N.J.A.C. 7:27-15. Contractor shall purchase "No Idling" signs to post at the site to remind subcontractors to comply with the idling limits. Signs are available for purchase from the Bureau of Mobile Sources at 609/292-7953 or <http://www.stophesoot.org/sts-no-idle-sign.htm>.
  - 2) All non-road diesel construction equipment greater than 100 horsepower used on the project for more than ten days shall have engines that meet the USEPA Tier 4 non-road emission standards, or the best available emission control technology that is technologically feasible for that application and is verified by the USEPA or the CARB as a diesel emission control strategy for reducing particulate matter and/or NOx emissions.
  - 3) All on-road diesel vehicles used to haul materials or traveling to and from the construction site shall use designated truck routes that are designed to minimize impacts on residential areas and sensitive receptors such as hospitals, schools, daycare facilities, senior citizen housing, and convalescent facilities.
- b. Contractor will be liable for the effects of off-site particulate dust and/or odors during construction and shall take steps to minimize the impact of air pollution from these activities.

B. Related Sections:

1. Section 00870 - Miscellaneous Requirements.
2. Section 01010 - Summary of the Work.
3. Section 01020 - Allowances.
4. Section 01040 - Coordination.
5. Section 02070 - Selective Demolition.
6. Division 2 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

### 1.3 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
1. Location and Extent of Work: Submit key plan indicating room location where work to take place. Describe cutting and patching, indicate methods and show how they will be performed.

2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
3. Products: List products to be used and firms or entities that will perform the Work. Provide samples and field mock-up as indicated or requested by the Architect.
  - a. Samples and field mock-up shall match existing surfaces and colors.
  - b. Obtain Architect's approval prior to proceeding with work.
4. Schedule and Dates: Provide work schedule, indicate when cutting and patching will be performed.
5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

#### **1.4 QUALITY ASSURANCE**

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Coordinate cutting of operating elements with other plumbing, HVAC, electrical or other trades.
- C. Miscellaneous Building Elements: Do not cut and patch any building elements or related components in a manner that could change their operation, load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
  1. Engage experienced installers or fabricators for all work.

- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- F. Mock-Ups: Provide mock-ups for Architect approval for each proposed patching method. Do not proceed with patching work until obtaining of approvals from the Architect.

## **1.5 WARRANTY**

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties. Confirm existing warranties with Owner prior to starting of work.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
  - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

B. Inspection:

1. Prior to start of any work the General Construction Work Contractor shall verify all existing work area conditions; lengths, and all other dimensions.
  - a. Copies of all surveys performed by the General Contractor shall be submitted to the Architect in two copies and shall include layout drawings and data sheets.
2. The General Construction Work Contractor shall submit information and survey to other Subcontractor(s), the Architect for all required coordination of new construction and all other related site work.
3. Prior to work of this section, verify information and survey submitted by the General Construction Work Contractor, carefully inspect the existing conditions and verify that materials and surfaces to be altered or removed are the same as noted on the drawings.

C. Discrepancies:

1. In the event of discrepancy of existing conditions, surfaces, etc., immediately notify the Architect.
2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

### **3.2 PREPARATION**

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services to occupied areas.

### **3.3 PERFORMANCE**

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  1. The Contractor shall provide cutting, patching, relocations, and or re-installations

of existing construction to provide for installation of other components or performance of other construction associated with his/her work, and subsequently patch and finish as required to restore surfaces to their original condition. Work shall be performed whether or not shown on drawings.

2. The General Construction Work Contractor shall provide all required and necessary pockets in concrete and masonry walls including all required cutting, and preparation work to allow for installation of new structural steel framing, supports, lintels, bearing plates, etc. The General Construction Work Contractor shall subsequently patch as required to restore and prepare surfaces to receive new finishes.
3. All repairing, patching, piecing out, filling in, restoring and refinishing shall be neatly done by craftsmen skilled in their respective trades and completed in proper manner to leave same in condition satisfactory to the Architect.
4. All new work shall be installed plumb, level, true, and shall be shimmed as required to cover any irregularities in substrates.

B. Cutting:

1. Before cutting is started in any location the Contractor shall carefully investigate conditions as to human and structural safety, existing piping, wiring and items concealed, and wherever same interfere with the work they shall be properly relocated, rerouted or removed as the case may be, at no increase to contract price.
2. Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
3. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
4. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
5. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
6. Do not disturb any structural work, plumbing, steam, gas, or electric work without approval of Architect.

7. Proceed with patching after construction operations requiring cutting are complete.
    - a. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work.
  8. Existing work disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled or replaced with new work, and refinished and left in as good condition as existing before commencing work.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
  2. Field Mock-up: Prepare field mock-up of proposed restoration method as requested or required by the Architect. Obtain Architect's approval prior proceeding with actual work.
  3. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate or minimize evidence of patching and refinishing.
  4. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

### **3.4 CLEAN-UP**

- A. Areas where demolition is in progress within or adjacent to Owner occupied areas shall be broom cleaned at the end of each working day.
- B. Do not burn materials or debris on premises.
- C. Do not allow demolished materials to accumulate inside or outside of existing building.
- D. Remove from the site all rubbish and debris resulting from work of this section.
- E. If the Contractor fails to clean-up their debris within 24 hours, the Owner has the right to clean-up the debris left by the Contractor. All associated clean-up costs, incurred by the Owner, will be back-charged to the Contractor.



### **3.5 PROTECTION**

- A. Contractor shall provide all other necessary temporary enclosures, guardrails, barricades, etc. to adequately protect all workers and public from possible injury. Provide all necessary temporary partitions, enclosures, coverings of approved materials and construction for the exclusion of weather and for confining dust and debris.
- B. Contractor shall be responsible for the protection of the existing building, facilities and improvements within the areas where work is being done. Any disturbance or damage to the work, the existing building, and improvements, equipment or any impairments of facilities resulting from his/her work, shall be promptly restored, repaired, or replaced by the responsible Contractor at no extra cost to the Owner.
- C. Adequate protection of persons and property shall be provided at all times, including Saturdays, Sundays and holidays, and during time work is being performed and after working hours. Protection shall include barricade fencing, traffic control, dust partitions, weather protection and other means as required.
- D. Preserve and protect all existing vegetation such as trees, shrubs, and grass on or adjacent to the site and along access to the site. Be responsible for all unauthorized cutting or damaging of trees and shrubs, including damage due to careless operation of equipment, stock-piling of materials or tracking of grass areas by equipment.

### **3.6 SALVAGE**

- A. Partial Removal: Items of salvable value to Contractor may be removed from structure as work progresses. Salvage items must be transported from site as they are removed.
  - 1. Storage or sale of removed items on site will not be permitted.
- B. Items designated on drawings or in specifications to remain the property of the Owner, or to be reused, shall be removed, and securely stored with care to prevent damage. Repair or replace such items damaged in removal.
- C. Before transporting non-designated, removed items from the site, contact Architect for decision as to what items if any are to remain the property of the Owner. Items retained by the Owner will be transported by him/her to his/her storage area.

### **3.7 STANDARDS**

- A. All demolition work shall be performed in accordance with the applicable rules and regulations and the Codes and Ordinances of local, State and Federal authorities, and in accordance with the requirements of public utility corporations.

- B. Work shall satisfy requirements of the Occupational Safety and Health Act of 1970 with amendments.
- C. Work not affected by more stringent requirements of regulatory agencies shall satisfy the provisions of ANSI-A10.6-2006 - American National Standard Safety Requirements for Demolition.
- D. Confine the movement and storage of vehicles, equipment and materials to such routes and locations as may be designated by the Owner and Architect.
- E. The building and grounds will be maintained in a clean and orderly manner so as to conform with all local fire safety regulations and in accordance with the latest editions of the Safety Code of the National and State Board of Fire Underwriters.

### **3.8 INGRESS, EGRESS AND CIRCULATION**

- A. The Prime Contractor shall be responsible for performing his/her construction activities in such manner to maintain ingress and egress for visitors and occupants of Owner-occupied areas and to continuously maintain all required emergency exits from and circulation between existing facilities. Passageways for emergency exits shall be kept continuously free from debris, construction equipment, tools, stockpiles or materials, and other hazards to speedy evacuation. The Contractor shall provide all necessary temporary work as prudence and good practice may dictate and in accordance with Applicable Law and Authorities having jurisdiction to obtain and maintain all such ingress, egress and circulation requirements. The Prime Contractor shall be responsible for providing coordination of this temporary work between Subcontractor(s), as directed by the Architect. All temporary work shall be removed when no longer required.

### **3.9 NON-INTERFERENCE WITH OWNER'S OPERATIONS**

- A. Work under this Contract will be performed when the existing building is occupied. Coordinate with Owner's schedule and operation, obtain Owner's approval prior to proceeding with work.
- B. Contractor shall acquaint himself/herself with the general character of the Owner's operations prior to commencing work and shall schedule his/her work to avoid interference therewith. The sequence of alteration operations shall be in accordance with a schedule of contract operations approved by the Owner and Architect.
- C. The Contractor shall not start work until the schedule has been approved in writing by the Architect and the Owner. The Contractor shall not perform work in occupied areas without giving the Owner 72 hours written notice of his/her intention to work in occupied areas.
- D. The Contractor shall expedite placing orders and submission of shop drawings for equipment required to complete work under this Contract to ensure delivery of all

equipment with adequate time allowed to complete the installations to conform to the project completion date.

**END OF SECTION 01050**

## SECTION 01151 - UNIT PRICES

### PART 1 - GENERAL

#### 1.1 PROCEDURE

- A. Bidder shall insert on the Proposal Form, all Unit Prices applicable to the work under his/her bid. Unit Prices will be used as the basis for computing "additions to" or "deductions from" the Contract Price for extra work and for work countermanded, reduced or omitted.
- B. Except as otherwise provided in the General Conditions, the Unit Prices when accepted, adjusted or established by the Contract shall remain binding and irrevocable for the entire period of the Contract, regardless of the quantities of work ordered or required under such Unit Prices.
- C. The acceptance of the Unit Price is on condition that the general character of the material and workmanship required for any work related thereto shall be equivalent to corresponding work as shown and specified, and that all costs, overhead and profit, as well as all incidental work required in connection therewith, has been included in the Unit Price.

#### 1.2 UNIT PRICES - GENERAL CONSTRUCTION: Materials in Place.

Cost to remove and replace broken bricks and mortar to match adjacent material per brick & surrounding mortar \$ \_\_\_\_\_ per 10 brick

Cost to remove and replace deteriorated mortar to match adjacent material \$ \_\_\_\_\_ per lin. ft.

Cost to remove and replace pre-cast window sill mortar to match adjacent material and all associated work \$ \_\_\_\_\_ per lin. ft.

Cost to remove and replace miscellaneous structural steel lintel and all associated work \$ \_\_\_\_\_ per lin. ft.

**END OF SECTION 01151**

## **SECTION 01200 - PROJECT MEETINGS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section specifies administrative and procedural requirements for project meetings including but not limited to:
  - 1. Pre-Construction Conference
  - 2. Pre-Installation Conferences
  - 3. Coordination Meetings
  - 4. Progress Meetings
- B. Construction Schedule requirements is specified in another Division 1, Section.

#### **1.3 PRE-CONSTRUCTION CONFERENCE**

- A. The Architect will schedule a pre-construction conference and organizational meeting at the Project site or other convenient location no later than fifteen (15) calendar days after execution of the Agreement and prior to commencement of construction activities. Conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: The Owner, Architect, the Prime Contractor and his/her superintendent, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the work.
- C. Agenda: Discuss items of significance that could effect progress including such topics as:
  - 1. Tentative construction schedule
  - 2. Critical work sequencing
  - 3. Designation of responsible personnel
  - 4. Procedures for processing field decisions and Change Orders
  - 5. Procedures for processing Applications for Payment
  - 6. Distribution of Contract Documents
  - 7. Submittal of Shop Drawings, Product Data, and Samples
  - 8. Preparation of record documents
  - 9. Use of the premises
  - 10. Office, Work, and storage areas

11. Equipment deliveries and priorities
12. Safety Procedures
13. First Aid
14. Security
15. Housekeeping
16. Working hours

#### **1.4 PRE-INSTALLATION CONFERENCES**

- A. The Prime Contractor to conduct a pre-installation conference at the site before each construction activity that requires coordination with other construction. The installer and representative of manufacturers and fabricators involved in or affected by the installation, and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise the Architect of scheduled meeting dates.
  1. Review the progress of other construction activities and preparations for the particular activity under consideration at each pre-installation conference, including requirements for:
    - a. Contract Documents
    - b. Options
    - c. Related change orders
    - d. Purchases
    - e. Deliveries
    - f. Shop Drawings, product data and quality control samples
    - g. Possible conflicts
    - h. Compatibility problems
    - i. Time schedules
    - j. Weather limitations
    - k. Manufacturer's recommendations
    - l. Compatibility of materials
    - m. Acceptability of substrates
    - n. Temporary facilities
    - o. Space and access limitations
    - p. Governing regulations
    - q. Safety
    - r. Inspection and testing requirements
    - s. Required performance results
    - t. Recording requirements
    - u. Protection
  2. Record significant discussions and agreements and disagreements of each conference along with the approved schedule. Distribute the record of the meeting to everyone concerned, promptly, including the Owner, and the Architect.

3. Do not proceed if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of work and reconvene the conference at the earliest feasible date.

## **1.5 COORDINATION MEETINGS**

- A. The Contractor for General Construction will conduct project coordination meetings at regularly scheduled times convenient for all parties involved. Project coordination meetings are in addition to specific meetings held for other purposes, such as regular progress meetings and special pre-installation meetings.
- B. Request representation at each meeting by every party currently involved in coordination or planning for the construction activities involved.
- C. Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

## **1.6 PROGRESS MEETINGS**

- A. Regular Progress Meetings: The Architect will schedule and conduct regular progress meetings as follows:
  1. Bi-weekly meeting with the Owner, Architect, Contractor and Subcontractors.
    - a. Weekly meetings between the Contractor and Subcontractors will be the responsibility of the Contractor and the Architect will not attend.
- B. Special Meetings will be conducted as required by the progress of the work
- C. Location of the meetings: Meetings shall be conducted at a location in the building to be determined by the Owner's Representative.
- D. Attendance: Attendance at Construction Meetings shall be as follows:
  1. The Owner shall be in attendance at bi-weekly meetings and at any special meetings as appropriate to the agenda.
  2. The Architect at bi-weekly meetings and at any special meetings as appropriate to the agenda.
  3. The Contractor at all construction meetings.
  4. Subcontractors as appropriate to the agenda.
  5. Suppliers as appropriate to the agenda.
  6. The Owner's Representative at all construction meetings.

- E. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the project.
- F. Contractor's Construction Schedule:
  - 1. Review the present and future needs of each entity present, including such items as:
    - a. Interface requirements
    - b. Time
    - c. Sequences
    - d. Deliveries
    - e. Off-site fabrication problems
    - f. Access
    - g. Site utilization
    - h. Temporary facilities and services
    - i. Hours of work
    - j. Hazards and risks
    - k. Housekeeping
    - l. Quality and work standards
    - m. Change orders
    - n. Documentation of information for payment requests
- G. Reporting: No later than three (3) business days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
- H. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.
- I. Attendance by the Contractor is mandatory, whether the meetings are weekly, bi-weekly or at whatever interval is determined by the Architect.
  - 1. Unless given prior approval by the Architect in writing not to attend meetings, Contractor will be fined **\$250.00** for each regularly scheduled meeting for which he/she is not represented by a person in authority who can speak for and/or make decisions for the Contractor.
  - 2. Fine amounts shall be withheld and deducted from the Contract Sum.

**END OF SECTION 01200**



## SECTION 01400 - MATERIAL TESTING / QUALITY CONTROL SERVICES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for material testing and quality control services.

- 1. **Testing and inspecting services are required to verify compliance with requirements specified or indicated and are the responsibility of the Contractor. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.**

- B. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.

- 1. Quality Control Services is the responsibility of the Contractor.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-control services required by Architect, and the Owner or authorities having jurisdiction are not limited by provisions of this Section.

- C. Related Sections include the following:

- 1. Division 1 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections in AIA Document A201 and Section 01200.
  - 2. Division 1 Section "Cutting and Patching" for repair and restoration of construction disturbed by testing and inspecting activities.
  - 3. Specification Sections for specific test and inspection requirements.

### **1.3 DEFINITIONS**

- A. Quality Control Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Architect
- C. Mockups: Full-size, physical example assemblies to illustrate finishes and materials. Mockups are used to verify selections made under Sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples.
  - 1. Mockups establish the standard by which the Work will be judged.
- D. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

### **1.4 DELEGATED DESIGN**

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

### **1.5 REGULATORY REQUIREMENTS**

- A. Copies of Regulations: Obtain copies of referenced regulations which also available in Local Public Libraries.

### **1.6 SUBMITTALS**

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Delegated-Design Submittal: When requirement is indicated in specific technical section and/or when requested by the Architect, in addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed

by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Description of test and inspection.
3. Identification of applicable standards.
4. Identification of test and inspection methods.
5. Number of tests and inspections required.
6. Time schedule or time span for tests and inspections.
7. Entity responsible for performing tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

D. Reports: Prepare and submit certified written reports that include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Ambient conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

E. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

## **1.7 QUALITY ASSURANCE**

A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- B. **Factory-Authorized Service Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- C. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in the jurisdiction where the Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. **Specialists:** Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
  - 1. Requirement for specialists shall not supersede building codes and similar regulations governing the Work, nor interfere with local trade-union jurisdictional settlements and similar conventions.
- G. **Testing Agency Qualifications:** An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.
  - 1. **Preconstruction Testing:** Testing agency shall perform preconstruction testing for compliance with specified requirements for performance and test methods.
  - 2. **Contractor responsibilities include the following:**
    - a. Provide test specimens and assemblies representative of proposed materials and construction. Provide sizes and configurations of assemblies to adequately demonstrate capability of product to comply with performance requirements.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Fabricate and install test assemblies using installers who will perform the same tasks for Project.

- d. When testing is complete, remove assemblies; do not reuse materials on Project.
  3. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect and the Owner with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- H. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect .
  2. Notify Architect seven (7) days in advance of dates and times when mockups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.
  4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
  5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
  6. Demolish and remove mockups when directed, unless otherwise indicated.

## **1.8 QUALITY CONTROL**

- A. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
  2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
  3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

- a. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- B. **Manufacturer's Field Services:** Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.
- C. **Retesting/Reinspecting:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.
  1. **Testing Agency Responsibilities:** Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
    - a. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
    - b. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
    - c. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
    - d. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
    - e. Do not perform any duties of Contractor.
  2. **Associated Services:** Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
    - a. Access to the Work.
    - b. Incidental labor and facilities necessary to facilitate tests and inspections.
    - c. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
    - d. Facilities for storage and field-curing of test samples.
    - e. Delivery of samples to testing agencies.
    - f. Preliminary design mix proposed for use for material mixes that require control by testing agency.
    - g. Security and protection for samples and for testing and inspecting equipment at Project site.
  3. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
    - a. Schedule times for tests, inspections, obtaining samples, and similar activities.

4. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for commencement of the Work.
  - a. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

## **PART 2 - PRODUCTS (Not Used)**

## **PART 3 - EXECUTION**

### **3.1 REPAIR AND PROTECTION**

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching.
  2. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
  3. Protect construction exposed by or for quality-control service activities.
  4. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

**END OF SECTION 01400**

## SECTION 01410 - REFERENCES AND INDUSTRY STANDARDS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. The work of this Section applies to all Construction Contract Documents including drawings, Division 1 - Miscellaneous Requirements Sections, and Specifications Sections included in Part-2 through Part-6.

#### 1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved:" The term "approved," when used to convey Architect's action on Contractor's submittals, applications, and requests, is limited to Architect's duties and responsibilities.
- C. "Directed:" Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by Architect, requested by Architect, and similar phrases.
- D. "Indicated:" The term "indicated" refers to graphic representations, notes, or schedules on Drawings or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.
- E. "Regulations:" The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish:" The term "furnish" means to supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install:" The term "install" describes operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide:" The term "provide" means to furnish and install, complete and ready for the intended use.
- I. "Installer:" An installer is the Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.



- J. The term "experienced," when used with an entity, means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction, subject to verification by and approval of the Architect.
  - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- K. "Project site(s)" is the space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

### **1.3 INDUSTRY STANDARDS**

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
- C. Conflicting Requirements: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
  - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available on request.

- E. Abbreviations and Acronyms for Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S." .

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION (Not Used)**

**END OF SECTION 01410**

## SECTION 01505 - TEMPORARY FACILITIES

### 1.1 RESPONSIBILITIES OF CONTRACTOR

A. Contractor is responsible for the following temporary facilities and services:

1. Installation, operation, maintenance and removal of each temporary facility usually considered as its own normal construction activity.
2. Plug in electric cords, extensions cords, supplementary plug in task lighting and special lighting necessary exclusively for his/her own activities.
3. His/Her own storage and fabrication sheds.
4. All hoisting requirements for his/her work.
5. Collection and disposal of debris, hazardous, unsanitary or other harmful waste material from their operations, on a daily basis to trash receptacles, hoppers, containers, dumpsters, etc. furnished by the Contractor.
  - a. **Refer to Section 01050 - Alterations, Cutting, Patching and Refinishing Work which identifies the responsible Contractor for the collection and disposal of debris and Section 01524 - Construction Waste Management for additional information.**
6. Six foot (6'-0") high site enclosure fence, including maintenance and any gates needed. Provide fence relocations as needed during construction.
7. The secure lockup of his/her own tools, materials and equipment.
8. Construction aids and miscellaneous services and facilities necessary exclusively for his/her own construction activities.
9. Temporary storage provisions for work, including offsite provisions, if required.
10. Containerized bottled drinking water units for his/her personnel.
11. Fire protection provisions related to work including fire extinguishers.
12. All personnel safety equipment and provisions for his/her personnel.
13. Environmental protections.
14. Dust and fume control
15. Tree and plant protection.
16. Other temporary facilities and services stated as their responsibility elsewhere in the Project Documents.

17. Temporary toilet(s) in sufficient quantity to suit project needs and including disposable supplies.

## **1.2 CONSTRUCTION WORKERS PROTECTION DURING COVID-19**

- A. Due to COVID-19 and New Jersey Executive Orders EO107 and LFN2020-10, Construction workers shall follow recommended precautions to protect themselves and other workers, staff, students, etc. at the project site(s).
  1. Limit close contact with others by maintaining a distance of at least 6 feet, when possible.
  2. Wear cloth face coverings in public settings.
  3. Clean and disinfect frequently touched surfaces such as shared tools, machines, vehicles and other equipment, handrails, ladders, doorknobs, and portable toilets.
  4. Practice proper hand hygiene.
  5. Contractors, Subcontractors and all Workers assume sole responsibility for working at this project under these conditions.
- B. Refer to the follow organizations for additional recommended precautions:
  1. Centers for Disease Control and Prevention (CDC).
  2. State of New Jersey Department of Health.
  3. World Health Organization.

## **1.3 COMPRESSED AIR**

- A. Contractor shall furnish his/her own equipment and energy source to provide compressed air required for the completion of work under his/her contract.

## **1.4 REMOVAL AND RESTORATION OF TEMPORARY FACILITIES**

- A. At the completion of the work prior to final payment, Contractor shall remove temporary facilities and work which he/she has been responsible. Refer to Section 01700 for additional requirements.

## **1.5 UTILITY CONSUMPTION**

- A. The Owner shall be responsible and pay all utility costs for electric and water consumption during the construction period.

**END OF SECTION 01505**

## **SECTION 01524 - CONSTRUCTION WASTE MANAGEMENT**

### **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 administrative and procedural requirements for the following:
  - 1. Salvaging nonhazardous demolition and construction waste.
  - 2. Recycling nonhazardous demolition and construction waste.
  - 3. Disposing of nonhazardous demolition and construction waste.
- B. Related Sections include the following:
  - 1. All of Division 1 and attached specifications and drawings that make a part of this contract.

#### **1.3 DEFINITIONS**

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

#### **1.4 SUBMITTALS**

- A. Waste Management Plan: Submit 4 copies of plan within 30 days of date established for the Notice to Proceed.

- B. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- C. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- D. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- E. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

## **1.5 QUALITY ASSURANCE**

- A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 1. Review methods and procedures related to waste management including, but not limited to, the following:
  - 1. Review and discuss waste management plan.
  - 2. Review requirements for documenting quantities of each type of waste and its disposition.
  - 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
  - 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
  - 5. Review waste management requirements for each trade.

## **1.6 WASTE MANAGEMENT PLAN**

- A. General: Develop plan consisting of waste identification, and waste reduction work plan. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
1. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
  2. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
  3. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
  4. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
  5. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

## **PART 2 - PRODUCTS (NOT USED)**

## **PART 3 - EXECUTION**

### **3.1 PLAN IMPLEMENTATION**

- A. General: Implement waste management plan as approved by Owner / Architect. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
1. Comply with Division 1 Section "Temporary Facilities" for operation, termination, and removal requirements.
- B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
1. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with Division 1 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

### **3.2 SALVAGING DEMOLITION WASTE**

- A. Salvaged Items for Sale and Donation: Not permitted on Project site.

### **3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL**

- A. General: Recycle beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
  1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
    - a. Inspect containers and bins for contamination and remove contaminated materials if found.
  2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  3. Stockpile materials away from construction area.
  4. Store components off the ground and protect from the weather.
  5. Remove recyclable waste off Owner's property and transport to recycling receiving or processor.

### **3.4 RECYCLING CONSTRUCTION WASTE**

- A. Packaging:
  1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
  2. Polystyrene Packaging: Separate and bag materials.



3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.

### **3.5 DISPOSAL OF WASTE**

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
  1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
  2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials on site.
- C. Burying: Do not bury waste materials on site.
- D. Disposal: Transport waste materials off Owner's property and legally dispose of them.
- E. Washing waste materials into sewers or drains is not permitted.

**END OF SECTION 01524**

## **SECTION 01600 - PRODUCT REQUIREMENTS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. The work of this Section applies to all Construction Contract Documents including drawings, Division 1 - Miscellaneous Requirements Sections, and Specifications Sections.

#### **1.2 SUMMARY**

- A. Section Includes:
  - 1. General product requirements, including:
    - a. General specification requirements for all products.
    - b. General requirements and procedures for maintenance materials and tools.
  - 2. General requirements for product documentation, including:
    - a. Requirements and procedures for schedule of products.
    - b. General requirements for operation and maintenance data.
  - 3. General procedures for products including:
    - a. Procedures for transportation and handling.
    - b. Procedures for delivery and receiving.
    - c. Procedures for storage.

### **PART 2 - PRODUCTS**

#### **2.1 GENERAL**

- A. Components required to be supplied in quantity within a specification section shall be identical, interchangeable, and made by the same manufacturer.
- B. Do not use products removed from existing construction.

#### **2.2 MAINTENANCE MATERIALS AND TOOLS**

- A. Maintenance Materials: Parts and materials for repair and maintenance; specific items required are specified in product sections.
  - 1. Provide products and tools which are identical to those used in the work; if necessary to obtain identical items, order at the same time as products to be installed or tools to be used in the work.
- B. Package appropriately and label to show type and quantity of contents.

- C. Deliver, handle, and store in the same manner as products to be installed.
- D. Do not turn over to the Owner until date of substantial completion, unless otherwise approved by the Owner.
- E. Deliver to the Owner; unload.
- F. Obtain receipt prior to final payment.

## **PART 3 - EXECUTION**

### **3.1 PRODUCTS**

- A. It is the Contractor's responsibility to select products which comply with the contract documents and which are compatible with one another, with existing work, and with products selected by other Contractors.
  - 1. Where visual matching to an established physical sample is required, the Architect's decision will be final.
- B. Do not use any substitute products which have not been approved in accordance with the requirements of the contract documents.
- C. Where the specification is silent on whether substitutions will be considered, substitutions will be considered only when submitted in accordance with AIA A201 and Section 00800.
- D. Products Specified by Reference Standard: Use any product meeting the specification. Provisions of reference standards shall not modify the responsibilities of the Owner or Architect as defined in the contract documents.
- E. Products Specified by Performance Requirements: Use any product meeting the specification.
- F. Products Specified to Match a Physical Sample: Use any product that matches; obtain the Architect's approval.
- G. Products Specified by Listing a Brand Name Product(s) made by listed Manufacturer(s) as the "Basis of Design":
  - 1. Pursuant to N.J.S.A. 18A:18A-15(d) indicated basis of design brand name product(s) or equivalent made by one of the manufacturers listed will be acceptable, as determined by the Architect.
- H. Products Specified by Listing Brand Name Product(s) Accompanied by Language Indicating that Substitutions Are Allowed: Provide a product meeting the specification; submit substitution request for any brand-name product, that is not

listed, in accordance with AIA A201 and Section 00800.

- I. Products Specified by Listing Manufacturer(s): Provide a product meeting the specification and made by one of the manufacturers listed or an approved equal. Approval of substitutions will be in accordance with AIA A201 and Section 00800.
- J. Unless specified or noted otherwise in the Contract Documents and/or approved submittals, all Work is to be performed in accordance with the respective material Manufacturer's printed installation instruction. Work installed in variance with the Contract Documents, Approved Submittals and Manufacturer's printed installation instructions will be rejected, removed and replaced by the Contractor and at no additional cost to the Owner.

### **3.2 SCHEDULE OF PRODUCTS**

- A. Prepare a complete schedule of products used, including the following for each product:
  - 1. Manufacturer's name.
  - 2. Brand or trade name.
  - 3. Model number, if applicable.
  - 4. Reference standard, if more than one is applicable.
  - 5. Arrange products in the schedule by specification sections; indicate paragraph where specified.
- B. Prepare and submit a preliminary schedule within 15 working days after award of contract; resubmit when revised; submit final schedule prior to final payment. See additional requirements and milestone dates in Section 01800.
- C. Schedule of products shall not be used to obtain approval of substitute products; make separate request for substitution.

### **3.3 OPERATION AND MAINTENANCE DATA**

- A. Provide operation and maintenance data as specified in individual product sections.
  - 1. Provide data sufficient for operation and maintenance by Owner without further assistance from the manufacturer.
  - 2. Provide completed data in time for use during Owner instruction.
- B. Data Required For Products - General:
  - 1. Name of manufacturer and product.
  - 2. Name, address, and telephone number of subcontractor or supplier.
  - 3. Local source of replacements.
  - 4. Local source of replaceable parts and supplies.

- C. Product Data: Where product data is specified for inclusion in operation and maintenance data, provide manufacturer's data sheets marked to indicate specific product and product options actually installed; delete inapplicable data.
- D. Project Record Documents: Provide an additional copy of applicable record documents for inclusion with the operation and maintenance data.
- E. Coordination Drawings: When coordination drawings are prepared, include a copy with the operating and maintenance data.
- F. Custom Manufactured Products: Provide all information needed for reordering.
- G. Finish Materials: Manufacturer's product data, color/texture designations, and manufacturer's instructions for care, cleaning, and maintenance.
- H. Products Exposed to Weather and Products for Moisture Protection: Manufacturer's product data, recommended inspection schedule and procedures, maintenance and repair procedures, and maintenance materials required.
- I. Equipment: Provide at least the following information:
  - 1. Product data giving equipment and function description, with normal operating characteristics and limiting conditions.
  - 2. Starting, operating, and troubleshooting procedures.
  - 3. Cleaning and maintenance requirements and procedures.
  - 4. External finish maintenance requirements.
  - 5. List of maintenance materials required.
  - 6. List of special tools required.
  - 7. Parts list: List all replaceable parts, with ordering data.
  - 8. Recommended quantity of spare parts to be maintained in storage.
- J. Systems: Provide overall function description, with diagrams, prepared especially for this project.
- K. Form of Data: Prepare data in the form of an instructional manual.
  - 1. Arrange contents logically, using section numbers and sequence of sections indicated on the table of contents of this project manual.
  - 2. When multiple volumes are used, arrange by related subjects; identify contents in cover title.
  - 3. Assemble into 3-ring binders with maximum 2-inch ring size.
    - a. Hardback, cleanable plastic covers.
    - b. Identify each book with title "Operation and Maintenance Instructions" and project name.
    - c. Page size 8-1/2 by 11 inches, maximum.

- d. Prepare special typewritten data on minimum 20-pound paper.
  - e. Provide tabbed divider for each product and system.
  - f. Drawings: Bind in with other data; provide reinforced binding edge; fold larger drawings to size of pages.
    - 1) Do not use pockets or loose drawings.
4. Provide table of contents for each volume listing:
- a. Name of the project.
  - b. Name, address, telephone number, and contact name of:
    - 1) Architect.
    - 2) Contractor.
  - c. Index of products and systems included in volume.

### **3.4 TRANSPORTATION AND HANDLING**

- A. Require supplier to package finished products in a manner which will protect from damage during shipping, handling, and storage.
- B. Transport products by methods which avoid damage.
- C. Deliver in dry, undamaged condition in manufacturer's unopened packaging.
- D. Provide equipment and personnel adequate to handle products by methods which prevent damage.
- E. Provide additional protection during handling where necessary to prevent damage to products and packaging.
- F. Lift large and heavy components at designated lift points only.

### **3.5 DELIVERY AND RECEIVING**

- A. Arrange deliveries of products to allow time for inspection prior to installation.
- B. Coordinate delivery to avoid conflict with the work and to take into account both the conditions at the site and the availability of personnel, handling equipment, and storage space.
- C. Clearly mark partial deliveries to identify contents, to permit easy accumulation of entire delivery, and to facilitate assembly.
- D. Promptly inspect shipments and remedy damage, incorrect quantity, incompleteness, improper or illegible labeling, and noncompliance with requirements of contract documents and approved submittals.

### **3.6 STORAGE**

- A. No indoor storage areas are available on site.
- B. General Storage Procedures:
  - 1. Store products immediately on delivery.
  - 2. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.
  - 3. Store in a manner to prevent damage to the stored products and to the work.
  - 4. Store moisture-sensitive products in weathertight enclosures.
  - 5. Store indoors if necessary to keep temperature and humidity within ranges required by manufacturer.
  - 6. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.
  - 7. Arrange storage to provide access for inspection and inventory.
  - 8. Periodically inspect and remedy damage and noncompliance with required conditions.
- C. Loose Granular Materials: Store on solid surfaces in well-drained area; prevent mixing with foreign materials.
- D. Exterior Storage:
  - 1. Cover products subject to weather damage with impervious sheet covering; provide ventilation to avoid condensation.
  - 2. Provide surface drainage to prevent runoff or ponded water from damaging stored products.
  - 3. Prevent damage and contamination from refuse and chemically injurious materials and liquids.
  - 4. Store fabricated products on substantial platforms, blocking, or skids above the ground, sloped to drain.

**END OF SECTION 01600**

## **SECTION 01700 - PROJECT CLOSEOUT DOCUMENTS AND PROCEDURES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. The work of this Section applies to all Construction Contract Documents including drawings, Specifications, Division 1 - Miscellaneous Requirements Sections, and Specification Sections.

#### **1.2 SUMMARY**

- A. Section Includes:
  - 1. Maintenance of Project Record Documents,
  - 2. Record drawings, including As-Built drawings,
  - 3. Record project manual (specifications),
  - 4. Operation and Maintenance Manuals,
  - 5. Warranties,
  - 6. Extra Materials,
  - 7. Submittals required prior to requesting for determining dates of substantial and final completion, and also prior to release of final payment(s),
  - 8. Transmittal of Closeout Project Documents to the Owner,
  - 9. Instructions of Owner's personnel,
  - 10. Final Cleaning.
- B. GENERAL REQUIREMENTS
  - 1. All submittals shall indicate reference to the appropriate Architect's Project Number.
- C. As-Built Drawings:
  - 1. Full-size paper set.
  - 2. Two (2) CD-Roms.

#### **1.3 MAINTENANCE OF PROJECT RECORD DOCUMENTS**

- A. Do not use record documents of any type for construction purposes.
- B. Maintain record documents in a secure location at the site while providing for access by the Contractor and the Architect during normal working hours; store in a fire-resistive room or container outside of normal working hours.
- C. Record information as soon as possible after it is obtained.
- D. Assign a person or persons responsible for maintaining record documents.



E. Record the following types of information on all applicable record documents:

1. Dimensional changes.
2. New and revised details.
3. Actual equipment locations.
4. Locations of utilities concealed in construction.
5. Particulars on concealed products which will not be easy to identify later.
6. Changes made by modifications to the contract; note identification numbers if applicable.
7. New information which may be useful to the Owner, but which was not shown in either the contract documents or submittals.

#### **1.4 RECORD AND AS-BUILT DRAWINGS**

A. During the progress of the installation, the Contractor shall keep a careful record of all changes and variations in the arrangement of his/her work from the layout shown on the Contract Drawings in order that the Owner may be provided with a complete set of all plans (As-Builts) showing the work as actually installed.

1. The Contractor shall maintain complete two (2) sets of opaque prints of the contract drawings, marked to show changes which occur due to his/her work.
2. Where the actual work differs from that shown on the drawings, mark this set to show the actual work.
3. Mark location of concealed items before they are covered by other work.
4. Mark either record contract drawings or shop drawings, whichever are best suited to show the change.
5. Where changes are marked on record shop drawings, mark cross-reference on the applicable contract drawing.
6. When the Contractor is required by a provision of a modification to prepare a new drawing, rather than to revise existing drawings, obtain instructions from the Architect as to the drawing scale and information required.
7. Keep drawings in labeled, bound sets.
  - a. Mark with red pencil.
  - b. Mark work of separate contracts with different colors of pencils.
8. Incorporate new drawings into existing sets, as they are issued.
9. Where record drawings are also required as part of operation and maintenance data submittals, make copies from the original record drawing set.

10. As-Built Drawing Format to be submitted to the Architect:
  - a. One (1) complete, legible full-size paper (hard copy) As-Built drawing set with the following information on each page:
    - 1) Note: "As-Built" drawing,
    - 2) Contractor's Firm name,
    - 3) Date.
  - b. Two (2) copies, pdf format CD-Rom, scanned As-Built drawings of the hard copy furnished to the Owner (indicated above) shall be furnished to the Owner and the Architect and as directed by the Architect.

B. Record drawings shall be provided for **all work** including but not limited to the following:

1. General Construction Work
2. Structural Steel Work

### **1.5 PROJECT SPECIFICATION MANUAL**

- A. The Contractor shall maintain a complete copy of the project specification manual, marked to show changes which occur due to his/her work.
- B. Where the actual work differs from that shown in the project manual, mark the record copy to show the actual work.
  1. Include a copy of each addendum and modification to the contract.
  2. In addition to the types of information required on all record documents, record the following types of information:
    - a. Product options taken, when the specification allows more than one.
    - b. Product substitutions.
    - c. Proprietary name and model number of actual products furnished, for each product, material, and item of equipment specified.
    - d. Name of the supplier and installer, for each product for which neither a product data submittal nor a maintenance data submittal was specified.

### **1.6 OPERATION AND MAINTENANCE MANUALS**

- A. Assemble a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:
  1. Operation Data:
    - a. Emergency instructions and procedures.
    - b. System, subsystem, and equipment descriptions, including operating standards.
    - c. Operating procedures.

2. Maintenance Data:
  - a. Manufacturer's information, including list of spare parts.
  - b. Name, address, and telephone number of Installer or supplier.
  - c. Maintenance procedures.
  - d. Maintenance and service schedules for preventive and routine maintenance.
  - e. Maintenance record forms.
  - f. Sources of spare parts and maintenance materials.
  - g. Copies of maintenance service agreements.
  - h. Copies of warranties and bonds.
- B. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.
- C. Operation and Maintenance Manuals must be submitted to the Architect. Approval must be obtained before issuing Final Certificate of Payment.

## **1.7 WARRANTIES**

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
  1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
  2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
  3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
  4. Warranty manual must be submitted to the Architect for review. Architect's approval must be obtained before issuing final payment.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

## 1.8 SUBMITTAL REQUIREMENTS - SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
  2. Advise Owner of pending insurance changeover requirements.
  3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs and digital images on CD Rom, damage or settlement surveys, and similar final record information.
  6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
  7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  8. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
  9. Complete final cleaning requirements, including touch-up painting.
  10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

2. Results of completed inspection will form the basis of requirements for Final Completion.

## **1.9 SUBMITTAL REQUIREMENTS - FINAL COMPLETION**

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
  1. Submit a final Application for Payment according to the requirements of the Contract Documents.
  2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and signed by the Contractor.
  3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Provide statement signed by Owner's representatives stating that they have received the required training.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
  1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected. The cost of additional inspections required by the Architect or his/her consultants due to Contractor's failure to complete the punch list will be paid by the Contractor and will be deducted from the Contractor's final payment.
- C. The Contractor is required to obtain all final releases from governmental and regulatory agencies having jurisdiction over the project with the assistance from the Architect and Owner (if required).

## **1.10 LIST OF INCOMPLETE ITEMS (PUNCH LIST)**

- A. Preparation: Submit three copies of list to the Architect. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, **starting with exterior areas first and proceeding from lowest floor to highest floor**, as applicable.
2. Organize items applying to each space by major element, including categories for individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
  - a. Project name.
  - b. Date.
  - c. Name of Architect.
  - d. Name of Contractor.
  - e. Page number.

## **1.11 PROJECT RECORD DOCUMENTS**

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.
- B. Record Drawings: Maintain and submit one set of blue - or black-line white prints of Contract Drawings and Shop Drawings.
  1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
    - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
    - b. Accurately record information in an understandable drawing technique.
    - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
    - d. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.
  2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
  3. Mark important additional information that was either shown schematically or omitted from original Drawings.
  4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
  5. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets;

bind each set with durable paper cover sheets. Include identification on cover sheets.

- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
  - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  - 3. Note related Change Orders, Record Drawings and Product Data, where applicable.
  
- D. Record Product Data: Submit one copy of each Product Data submittal. Mark one set to indicate the actual product installation where installation varies substantially from that indicated in Product Data.
  - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  - 3. Note related Change Orders, Record Drawings, and Record Specifications, where applicable.
  
- E. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

## **1.12 DEMONSTRATION AND TRAINING**

- A. Instruction: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
  - 1. Provide instructors experienced in operation and maintenance procedures.
  - 2. Provide instruction at mutually agreed-on times.
  - 3. Schedule training with Owner, through Architect, with at least seven calendar days advance notice.

4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
1. System design.
  2. Review of documentation.
  3. Operations.
  4. Adjustments.
  5. Troubleshooting.
  6. Maintenance.
  7. Repair.

### **1.13 FINAL CLEANING**

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
1. Refer to other Division 1 - specification sections for additional cleaning as required and where applicable.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - f. Remove debris and surface dust from limited access spaces, including roofs, and similar spaces.



- g. Clean transparent materials, including glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish glass, taking care not to scratch surfaces.
- h. Remove labels that are not permanent.
- i. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
  - (1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
- j. Replace parts subject to unusual operating conditions.
- k. Leave Project clean and ready for occupancy.
- l. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

#### **1.14 TRANSMITTAL TO OWNER**

- A. Collect, organize, label, and package ready for reference.
  - 1. Provide cardboard file boxes for submittals.
  - 2. Provide cardboard drawing tubes with end caps for transparencies.
  - 3. Bind print sets with durable paper covers.
  - 4. Label each document (and each sheet of drawings) with "PROJECT RECORD DOCUMENTS - This document has been prepared using information furnished by \_\_\_\_\_" [insert the contractor's name], and the date of preparation.
- B. Submit to the Architect for transmittal to the Owner, unless otherwise indicated.

#### **1.15 REMOVE TEMPORARY FACILITIES**

- A. At the completion of the work prior to final payment, remove all temporary facilities entirely from the site, including, but not limited to, the following:
  - 1. Trailers, temporary toilets, temporary enclosures, dust barriers and other temporary protection devices.

#### **1.16 SUBMITTALS REQUIRED PRIOR TO FINAL PAYMENT**

- A. Contractor must satisfy all requirements of Sections 01700 and 01900 prior to submitting for Final Payment.

- B. A closeout checklist will be provided to the Contractor when he/she is substantially complete. The Contractor is instructed to mark each submittal with the corresponding item number on the checklist. All warranties must have the Owner Name, Project Name, Architect Project Number and Warranty Periods. If all documents are not received in this format, the submittal will be rejected and the Contractor will be instructed to pick these documents up at the Architect's office for correction.
- C. Submittals required prior to final payment shall be in accordance with "Checklist" include, but are not limited to, the following items:
1. Completed Operations Insurance Certificate - ACORD Form.
  2. Affidavit of Payment of Debts and Claims - AIA Document G706.
  3. Affidavit of Release of Liens - AIA Document G706A.
  4. Consent of Surety Company to Final Payment - AIA Document G707.
  5. Certification of Wages in accordance with New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq.
  6. 10% one year Maintenance Bond on the form provided in this specification.
  7. Manufacturers' product warranties, Special written guarantees and warranties, maintenance warranty, etc. in accordance with Section 01900, various specification sections and the table of contents of the Project Manual. This is in addition to the one-year guarantee covered by the Maintenance Bond and in addition to the Contractor's one-year guarantee.
    - a. Guarantee shall be signed and sealed by Officer of the Contracting Firm and shall be notarized.
  8. Project Record Drawings, (As-Built Drawings), Record Specifications, Record Product Data, and Miscellaneous Record Submittals.
    - a. Note: As-Built Drawings shall be submitted to the Architect.
  9. Operation and Maintenance Manuals and Instructions.
    - a. Note: Operation and Maintenance Manuals shall be submitted to the Architect.
  10. Certificate of Occupancy / Copies of all Building Department inspection approvals.
  11. In accordance with requirements of N.J.S.A. 52:32-44. Contractor must submit accurate list of all subcontractors and suppliers. Contractor must provide a

certification that all proofs of business registration for all subcontractors and suppliers are maintained on his/her file.

12. All approvals and final releases from governmental and regulatory agencies have jurisdiction including, but not limited to: NJDCA, Local Construction Department, NJDEP, etc., as required.

**END OF SECTION 01700**

## CLOSEOUT CHECKLIST

<b>Owner</b>		
<b>Title</b>		
<b>Project #</b>		<b>Contract:</b>
<b>Contractor</b>		
<b>Substantial Completion Date:</b>		<b>Updated:</b>
<p><b>Refer to Specification Sections 01700 and 01900 for closeout requirements. All Warranties must have the Owner Name, Project Name, Project Number and Warranty Periods. As-Built drawings, O&amp;M manuals, reports, certifications, warranties, punch list must be submitted to Engineer for review.</b></p>		
<b>Item No.</b>	<b>Documents &amp; Warranties Required For Closeout</b>	<b>Status</b>
1	Completed Operations Insurance Certificate ACORD Form	
2	Completed Operation Insurance Statement (Sample Enclosed)	
3	AIA Document G701 Certificate of Substantial Completion	
4	AIA Document G702 Affidavit of Payment of Debts & Claims	
5	AIA Document G706A Affidavit of Release of Liens	
6	AIA Document G707 Consent of Surety to Final Payment	
7	Certification that all wages have been paid - NJ Prevailing Wage Act, N.J.S.A. 34:11-56.25	
8	10% - one year Maintenance Bond - must be on form provided in spec book - sample attached	
9	Record Project Manual indicating changes or company letter stating no changes.	
10	One Year Contractor's Guarantee Covered by Maintenance Bond - Sample Attached	
11	Operation Instructions & Maintenance Manuals <b>(2 each in 3-ring binder)</b>	
12	Record Drawings. Indicate As-Built drawings with company name, address and date <b>(1 Paper Set &amp; 2 CD's)</b>	
13	Final Payment Requisition & Board Voucher/Invoice (3) Contractor will not be closed out until all paperwork is submitted	
14	Certificate of Approval/Acceptance	
15	Confirmation that FVHD has received "hard copies" (not electronic) of all shop drawing submittals.	
16	Copies of all outstanding certified payroll reports or letter on Contractor's letterhead stating all outstanding certified payroll sheet and manning reports have been sent to the Owner.	
17	Letter on Contractor's letterhead stating date of substantial completion and requesting punch list review to Architect & Engineer	
18	Final Punch list signed and dated indicating completion of all work	
19	Accurate list of all subcontractors and suppliers	
20	Balancing & Testing Reports (HVAC)	
21	Fire Alarm Certification (ELECTRICAL)	
22	Warranties - Refer to Specification Section 01900 for required warranties for each trade	
23	All approvals and final releases from governmental and regulatory agencies have jurisdiction including, but not limited to: NJDCA, Local Construction Department, NJDEP, etc., as required.	

## SECTION 01800 - TIME OF COMPLETION AND LIQUIDATED DAMAGES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This section describes the requirements for completion of interim milestone events and final completion of all work required by the contract documents.
- B. Related Sections:
  - 1. Items of Work attached to the "Certificate of Substantial Completion" and establishing "Final Completion Time" as per Section 00800.
- C. This section also establishes the relation of liquidated damages for failure to complete the interim milestone events or final completion requirements within the time requirements stated herein.
- D. **The building (or part of the building) will be occupied at all times. The Contractor shall maintain heat, electric, fire safety systems and emergency egress paths, control dust and water infiltration at all times.**

#### 1.2 TIME FOR COMPLETION

- A. It is understood that each Contractor has mutual responsibility to complete its work in sequence with the work of the other Contractor and to allow the other Contractor access to the work site so that it may complete its work within the times established.
- B. Completion of the Contract Work by the Contractor shall be time of the essence.
- C. The Contractor shall work overtime, additional shifts, weekends or holidays to complete the work on time with no additional cost to the Owner.
  - 1. Scarce resources will be no excuse for not completing the work on time.
  - 2. **No work may take place during the school day in any occupied area. All work, in occupied areas, shall be performed on second shift (3:00 PM - 11:00 PM) after June 22, 2021. Only limited / selective work is permitted. Contractor must review proposed work activities and have approval of Owner and Architect prior to proceeding.**
  - 3. **Work may take place during regular shift and second shift (7:00 AM - 10:00 PM) after June 28, 2021 until August 27, 2021; however, the Contractor is required to review and coordinate all work activities with the Architect and School Facilities Director prior to commencing with the work.**
    - a. **Contractor to review permitted work hours to comply with the local "Noise Ordinance".**

4. **Contractor is required to include the cost of any premium time, second shift and weekend work which may be required in their bid to complete the work within the indicated milestone dates.**
- D. Substantial and final completion of the Work shall include, but is not limited to, final inspection and acceptance by the Local Building Officials.

### 1.3 BUILDING ENCLOSURE

- A. The building shall be considered "enclosed" when permanent window openings are closed with permanent weather-tight.

### 1.4 SEQUENCE OF CONSTRUCTION

- A. In order to allow the Prime Contractor and Subcontractor(s) to understand the requirements of the Project, the following general sequence of construction Work will be followed:
1. Generally, the General Construction Contractor is to schedule, sequence and coordinate the Work with sub-contractors as required to logically progress the Work, meeting the overall design intent, construction quality and time of completion. **Schedule inspections and obtain required approvals of all stages of the Work as required by the Local Construction Officials.**
  2. Proper scheduling of the Work includes timely sequencing, preparation, review and approval by the prime contractor and **submission of requisite technical and other project submittals and shop drawings** to the Architect/Engineers for approval to advance the proper, logical progression of the Work.
  3. After mobilization and securing the work site, the General Construction Work Contractor is to perform selective demolition of existing general building construction, layout and coordinate the proposed new construction with existing construction to remain, as noted on the Construction Drawings.
  4. Sequentially Work to achieve **weather-tight building enclosure.**
  5. Progress the Work of all Trades towards completion as required by the Contract Documents to obtain **Substantial Completion** including, inspection and testing by local construction officials, to obtain the Certificate of Occupancy.
  6. Provide written formal notification of **Substantial Completion** to the Architect and request Punch-List Observations.
  7. Complete proper preparation, review and approval by the Prime Contractor and submission of all Close-out Documents, Operation and Maintenance Manuals, As-built surveys and drawings to the Architect within contract time required to achieve **Final Completion.**

## 1.5 PROJECT CONTRACT MILESTONE DATES

### A. TIME OF COMPLETION

#### 1. Milestone No. 1

- a. Sign Contract, no later than **ten (10)** calendar days, Sundays and Holiday's excepted, from **Notice of Award**; on or about **March 16, 2021**.
- b. Contractor submits Bonds and Insurance **ten (10) calendar days from Notice of Award, Sundays and holidays excepted**.
- c. **Notice to Proceed** shall be within **three (3) business days** of date of signing Contract on or about **March 31, 2021**.

#### 2. Milestone No. 2

- a. **Time Critical submittals** for special equipment, fixtures, etc. shall be submitted within **twenty (20) calendar days from Notice to Proceed**.

#### 3. Milestone No. 3

- a. Submission of all remaining technical shop drawing submittals shall be submitted within **thirty (30) calendar days from Notice to Proceed**.

#### 4. Milestone No. 4

- a. Physical work at the site shall commence on or about **June 28, 2021**.

#### 5. Milestone No. 5

- a. Substantial Completion of the entire project shall be on or before **150 Calendar Days from the Notice to Proceed, August 27, 2021**.
- b. Liquidated Damages - \$500.00 / Calendar day of delay.

#### 6. Milestone No. 6

- a. Final Completion of all Work including punch list items and closeout documents, no later than **31 Calendar Days from Substantial Completion, September 27, 2021**.
- b. Liquidated Damages - \$500.00 / Calendar day of delay.

## 1.6 LIQUIDATED AND OTHER DAMAGES

- A. By bidding the Project, the Contractor is accepting that the time allotted for the completion of Work is reasonable. Completion of Work on or about these milestones are prerequisites for the coordinated Work of all Contractors. When the Owner will suffer financial loss and/or extra cost if a milestone task is not completed within the allotted time, the Contractor responsible for the delay in achievement of each milestone, as determined by the Owner's Project Manager and the Architect, shall pay to the Owner a fixed, agreed sum as liquidated damages for each calendar day of delay until the milestone task is substantially completed.

- B. The Liquidated Damages set for above shall be in addition to other consequential losses or damages the Owner may incur by reason of such delay, such as, but not limited to, the cost of additional architectural and engineering, independent third party inspection and other services resulting from the delay, additional costs to the Owner for payments to other Contractors resulting from delay.
- C. Liquidated Damages are fixed and agreed upon by and between the Contractor and the Owner because of the impracticality and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amounts shall be retained from time to time by the Owner for the current periodical payments.
  - 1. The Liquidated Damages set for above are intended to compensate Owner for loss of use during the period of delay, for other delay during construction which may result further delay in substantial and/or final completion dates and for any acceleration costs by other contractors to recover the defaulting contractor's delay.
  - 2. In no way shall costs of Liquidated Damages be construed as a penalty to the Contractor.
- D. The Owner shall have the right to deduct the total amount any Liquidated Damages for which the Contractor may be liable from any monies otherwise due the Contractor, including any retainage under control of the Owner.
- E. The Surety providing the Performance Bond, furnished by the Contractor, will be liable for Liquidated Damages assessed against the Contractor, to the extent that the Contractor shall not make settlement thereof with the Owner.
- F. The Contractor agrees that in the event the Owner is required to incur or advance any additional necessary and reasonable costs (including but not limited to Architect, Attorney or other fees related expenses), as a result of the failure of the Contractor to perform any obligation of this Contract or to perform its obligations in a timely manner as required by the Contract Documents, the Contractor agrees that such additional necessary and reasonable costs shall be borne by the Contractor and may be deducted by the Owner from any payment due the Contractor.
- G. In accordance with N.J.S.A. 18A:18A-19, the Owner shall deduct from the Contract Price, for any wages paid by the Owner to any inspector or inspectors necessarily employed by for the work of this project, for any number of days in excess of the number of days or indicated dates allowed in milestones above. Such sums shall be part of the Liquidated Damages indicated herein after.

**END OF SECTION 01800**



## SECTION 01900 - GUARANTEES AND WARRANTIES

### PART 1 - GENERAL

#### 1.1 CONTRACT

- A. Period for all guarantees and warranties shall commence at date of substantial completion for the entire project, as determined by the Architect.
- B. The Contractor's guarantee on all work, covered by Maintenance Bond. . . . **One (1) Yr.**
  - 1. The Maintenance Bond shall represent a continuing obligation of the Prime Contractor and his/her Subcontractor(s) to repair/replace defective materials and/or labor of products installed in the project for **one (1) year** from the date of Substantial Completion.
- C. Provide all required warranties indicated in specification sections which include but not limited to the following:

#### 1.2 GENERAL CONSTRUCTION WORK

- A. Unit Masonry Work as specified in Section 04200.
  - 1. The Contractor shall warrant the exterior walls to be free from leakage due to any natural cause for a period of **five (5) years** from date of final acceptance of the building and he/she shall, within such period at his/her own expense, upon written notification from the Owner, pursue such remedial measures as may be necessary to correct any condition of leakage and damage incidental thereto that may develop. The Contractor in signing this Contract accepts the above conditions. In so doing, he/she also agrees either that the materials and methods specified herein are such as to insure the results required or that he/she will, at no additional expense, furnish such additional or alternative items of labor and materials (or both) as may be necessary to accomplish the stated intent of the Contract.
  - 2. Flexible Copper Flashing:
    - a. Special warranty:
      - 1) Manufacturer shall warrant flexible flashing material for **life of the wall**.
      - 2) Begin warranty from the Date of Substantial Completion.
- B. Solid Polymer Fabrications as specified in Section 06650.
  - 1. Provide manufacturer's warranty against defects in materials, fabrication and installation, excluding damages caused by physical or chemical abuse or excessive heat. Warranty shall provide for replacement or repair of material and labor for a period of **ten (10) years**, beginning at Date of Substantial Completion.
    - a. For fabrications with installed warranty coverage, identify by affixing manufacturer's fabrication/installation source plate.

C. Agreement to Maintain Roofing

1. Roofing Contractor shall agree to maintain the roof systems and related roof sheet metal work in a weathertight and watertight condition for a period of **two (2) years** starting from the date of Owner's acceptance in accordance with special Maintenance Contract outlined herein.
2. During the Maintenance Period, the Roofing Contractor agrees that within 24 hours of receipt of notice from the Owner he/she will inspect and make immediate emergency repairs to defects or to leaks in the roof systems and related flashing work. He/She further agrees that within a reasonable time, he/she will restore the affected items to the standard of the original specifications. All emergency and permanent work during the life of the agreements to maintain the roof systems will be done without cost to the Owner, except in the event it is determined that such leaks were caused by abuse, lightning, hurricanes, tornado, hailstorm, other unusual climatic phenomena of the elements, or failure of related work (except related roof sheet metal work included under the Agreement) installed by other parties.
3. Agreement to maintain roofing system shall be in a written form acceptable to the Owner.

D. Flashing, Sheetmetal and Roof Accessories as specified in Section 07600.

1. Warrant Fluoropolymer coating to remain free, under various atmospheric conditions, from peeling, checking, or cracking, and chalking in excess of numerical rating of 8 when measured in accordance with ASTM D659-86, or fading in excess of 5 N.B.S. units during warranty period.
  - a. The Warranty period shall be **twenty (20) years** which starts on the approved date of Substantial Completion.

E. Joint Sealer Assemblies as specified in Section 07900.

1. Special Installer's Warranty: Written warranty, signed by Installer agreeing to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - a. Warranty Period: **Five (5) years** from date of Substantial Completion.
2. Special Manufacturer's Warranty: Written warranty, signed by elastomeric sealant manufacturer agreeing to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - a. Warranty Period: **Five (5) years** from date of Substantial Completion.
  - b. Submit two (2) copies of written guarantee for all sealant work of this section signed by the Contractor and the sealant manufacturer for a period of **five (5) years** from the date of acceptance by the Owner.
  - c. Guarantee shall further state that all exterior sealant will be guaranteed against:

- 1) Adhesive or cohesive failure in joints where movement is under maximum 25% extension or compression.
- 2) Any crazing greater than 3 mils in depth developing on surface of material.

F. Aluminum Windows as specified in Section 08520.

1. Aluminum Window Warranty:

- a. Products: Submit a written warranty, executed by the window manufacturer, for the following:
  - 1) Framing, sash components, and hardware: A period of one (1) year from the date of manufacture, against defective materials and workmanship, including substantial non-compliance with applicable specification requirements and industry standards, which results in premature failure of the windows or parts, outside of normal wear.
  - 2) Insulated glass units: A period of ten (10) years from the date of manufacture, against insulated glass seal failure unrelated to glass breakage.
  - 3) In the event windows or components are found defective, manufacturer will repair or provide replacements without charge at manufacturer's option.
  - 4) Where applicable, materials which are applied to the face of insulated glass for the purpose of simulating division in glass openings (SDL's) are warranted against detaching from the glass surface for a period of five (5) years.
  - 5) Finish: Refer to Part 2, Section 2.06 "FINISHES" for warranty requirements.
  - 6) Warranty for all components must be direct from the manufacturer (non-pass through) and non-prorated for the entire term. Warranty must be assignable to the non-residential owner, and transferable to subsequent owners through its length.
- b. Installation: Submit a written warranty, executed by the window installer, for a period of one (1) year from the date of substantial completion, against defective materials or workmanship, including substantial non-compliance with applicable specification requirements, which result in premature failure.
  - 1) In the event installation of windows or components is found to be defective, installer will repair or provide replacements without charge at the installer's option.

G. Glass and Glazing as specified in Section 08800.

1. Manufacturer's Special Warranty on Coated-Glass Products: Written warranty, made out to Owner and signed by coated-glass manufacturer agreeing to furnish replacements for those coated-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
  - a. Warranty Period: **Ten (10) years** from date of Substantial Completion.
2. Fabricator's Special Warranty on Insulating Glass: Written warranty, made out to Owner and signed by insulating-glass fabricator agreeing to furnish replacements for insulating-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the

nearest shipping point to Project site, within specified warranty period indicated below.

a. Warranty Period: **Ten (10) years** from date of Substantial Completion.

H. Security Window Film as specified in Section 08870.

1. Manufacturer and the Authorized Window Film Dealer (collectively referred to as "Seller") warrant for **twelve (12) years** from installation, and provided that the product is maintained in accordance with the Window Care Instructions below, that the Safety & Security Window Film will:
  - a. Maintain Adhesion Properties without blistering, bubbling, or delaminating from the glass,
  - b. Maintain Appearance without discoloration,
  - c. Maintain Strength, Tear, and Penetration Resistant Properties as defined in product literature.

Warranty Applicable with additional purchase & installation of Impact Protection System Adhesive or Profile:

2. With the purchase of Impact Protection Adhesive on all four (4) sides of the window, for the entire project, Manufacturer and the Authorized Window Film Dealer agree to extend the terms of this warranty an **additional two (2) years**, for a total of a **fourteen (14) year** warranty. This includes the film, attachment system, and labor. No changes are made to the glass breakage warranty.

I. Security Glazing (Alternate Bid) as specified in Section 08871.

1. General: Submit warranties provided by the manufacturer agreeing to repair or replace defective material or workmanship within the specified warranty periods, starting from the date of substantial completion.
  - a. Insulated Security Glass Units: Submit a **ten (10) year** warranty against defects including loss of seal, interior clouding, and discoloration.

**END OF SECTION 01900**

**GENERAL CONSTRUCTION WORK**

## **SECTION 02070 - SELECTIVE DEMOLITION**

### **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 DESCRIPTION OF WORK**

- A. Extent of selective demolition work is indicated on the drawings.
- B. Type(s) of Selective Demolition Work: Demolition requires the selective removal and subsequent offsite disposal of the following:
  - 1. Portion(s) of building structure, as indicated on drawings and as required, to accommodate new construction.
  - 2. Removal and protection of existing fixtures and equipment items indicated as "salvage".
- C. Related Work Specified Elsewhere:
  - 1. Remodeling construction work and patching is included within the respective sections of specifications, including removal of materials for re-use and incorporated into remodeling or new construction.

#### **1.3 SUBMITTALS**

- A. Proposed Demolition Activities: Submit schedule indicating proposed methods and sequence of operations for selective demolition work to Owner's Representative for review prior to commencement of work. Provide starting and ending dates for each activity as appropriate.
  - 1. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.
  - 2. Sequence construction so as to minimize obstruction of exits and provide temporary alternate exits, as required by authorities having jurisdiction.
  - 3. Coordinate with Owner's continuing occupation of portions of existing building, and with Owner's reduced usage during summer months.
- B. Photographs: Photograph existing conditions of structure, surfaces, equipment or surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Owner's Representative prior to starting work.
- C. Project Record Documents:
  - 1. Indicate unanticipated structural, electrical, or mechanical conditions.

## 1.4 JOB CONDITIONS

- A. Occupancy: Owner will be continuously occupying areas of the building immediately adjacent to areas of selective demolition. Conduct selective demolition work in manner that will minimize need for disruption of Owner's normal operations. Provide minimum of 72 hours advance notice to Owner of demolition activities which will severely impact Owner's normal operations.
- B. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.
  - 1. Conditions existing at time of commencement of contract will be maintained by Owner insofar as practicable. However, variations within structure may occur by Owner's removal and salvage operations prior to start of selective demolition work.
- C. Protections: Provide temporary barricades and other forms of protection as required to protect Owner's personnel and general public from injury due to selective demolition work.
  - 1. Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to and from occupied portions of building.
  - 2. Protect existing finish work, from being damaged during the project, which is to remain in place and becomes exposed during demolition operations.
  - 3. Protect floors with suitable coverings so as to leave the flooring in same condition at end of job.
  - 4. Construct temporary insulated solid dustproof partitions, where required, to separate areas where noisy or extensive dirt or dust operations are performed. Equip partitions with dustproof doors, if required.
  - 5. Remove protections at completion of work.
- D. Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner, including but not limited to concealed interior and exterior utility lines not properly investigated by the contractor, prior to commencement of demolition work.
- E. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
  - 1. Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- F. Explosives: Use of explosives will not be permitted.
- G. Utility Services: Maintain existing interior and exterior utilities indicated to remain, keep in service, and protect against damage during demolition operations.

1. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.

## **PART 2 - PRODUCTS (Not Applicable).**

## **PART 3 - EXECUTION**

### **3.1 INSPECTION**

- A. Prior to commencement of selective demolition work, inspect areas in which work will be performed.
  1. **Photograph existing conditions of structure, surfaces, equipment or surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Owner's Representative prior to starting work.**
  2. Commencement of work shall constitute acceptance of conditions. Any necessary remedial work required to correct any unsatisfactory conditions, found after the start of installation, will be provided at no cost to the Owner.
  3. Prior to the commencement of work review the demolition activities with the Owner's representative to identify additional salvage items requested by the Owner.

### **3.2 PREPARATION**

- A. Cover and protect furniture, equipment and fixtures to remain from soiling or damage when demolition work is performed in rooms or areas from which such items have not been removed.
- B. Erect and maintain dust-proof partitions and closures as required to prevent spread of dust or fumes to occupied portions of the building.
  1. Provide weatherproof closures for exterior openings resulting from demolition work.
- C. Locate, identify, stub off and disconnect utility services that are not indicated to remain.
  1. Provide by-pass connections as necessary to maintain continuity of service to occupied areas of building. Provide minimum of 72 hours advance notice to Owner if shut-down of service is necessary during change-over.

### **3.3 DEMOLITION**

- A. Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
  1. Demolish masonry in small sections. Cut masonry at junctures with construction to remain using power-driven masonry saw or hand tools;
    - a. The Contractor shall use caution when cutting into existing masonry construction



(eg.: single wythe and cavity wall construction) as there may be un-documented utilities within the cavity wall construction. The contractor shall perform all necessary investigation prior to demolition work to determine the presence of existing utilities within construction to be demolished, including but not limited to radar, thermal, impact echo, etc. The Contractor shall pay for restoring / repairing the existing construction if utilities are cut and proper selective demolition investigation work was not performed. Refer to Section 01050.

2. Locate demolition equipment throughout structure and promptly remove debris to avoid imposing excessive loads on supporting walls, floors or framing.
  3. Provide services for effective air and water pollution controls as required by authorities having jurisdiction.
  4. For interior slabs on grade, use removal methods that will not crack or structurally disturb adjacent slabs or partitions. Use power saw where possible.
- B. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Owner's Representative / Architect in written, accurate detail. Pending receipt of directive from Owner's Representative / Architect rearrange selective demolition schedule as necessary to continue overall job progress without delay.

### **3.4 SALVAGE MATERIALS**

- A. Salvage Items: Where indicated on Drawings as "Salvage-Deliver to Owner", carefully remove indicated items, clean, store and turn over to Owner and obtain receipt.
1. Unless otherwise indicated all materials, items, equipment, etc. resulting from demolition work shall be removed from the site at the Contractor's expense.
- B. Historic artifacts, and other articles of historic significance remain the property of the Owner. Notify Owner's Representative if such items are encountered and obtain acceptance regarding method of removal and salvage for Owner.

### **3.5 DISPOSAL OF DEMOLISHED MATERIALS**

- A. Remove debris, rubbish and other materials resulting from demolition operations from building site. Transport and legally dispose of materials off site.
- B. If hazardous materials are encountered during demolition operations, notify the Owner's Representative immediately, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.
- C. Burning of removed materials is not permitted on project site.

### **3.6 CLEAN-UP AND REPAIR**

- A. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.

- B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

**END OF SECTION 02070**

## **SECTION 02150 - SHORING AND BRACING**

### **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. Extent of shoring and bracing work includes, but is not limited to, the following:
  - 1. Shoring and bracing necessary to protect existing building(s), streets, walkways, utilities, and other improvements against collapse.
  - 2. Maintenance of shoring and bracing.
  - 3. Removal of shoring and bracing, as required.
- B. Types of shoring and bracing system may include, but are not limited to the following:
  - 1. Column shoring. (Building Structure)
  - 2. Scaffolding shoring. (Building Structure)
  - 3. Cantilever shoring. (Building Structure)

#### **1.3 SUBMITTALS**

- A. Layout Drawings: Provide layout drawings for shoring and bracing system and other data prepared and sealed by a registered Professional Engineer licensed in the State of the project. System design and calculations must be acceptable to local authorities having jurisdiction.

#### **1.4 QUALITY ASSURANCE**

- A. Supervision: Engage and assign supervision of shoring and bracing work to a qualified consultant.
- B. Submit name of engaged consultant and qualifying technical experience.
- C. Regulations: Comply with local codes and ordinances of governing authorities having jurisdiction.

#### **1.5 JOB CONDITIONS**

- A. Before starting work, check and verify governing dimensions and elevations. Survey condition of adjoining properties. Take photographs to record any prior settlement or cracking of structures, pavements, and other improvements. Prepare a list of such damages, verified by dated photographs, and signed by Contractor and others conducting investigation.
- B. Survey adjacent structures and improvements, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations. Locate

datum level used to establish benchmark elevations sufficiently distant so as not to be affected by movement resulting from excavation operations.

- C. During selective demolition, resurvey benchmarks weekly, employing a licensed Land Surveyor or registered Professional Engineer, licensed in the State of the project. Maintain accurate log of surveyed elevations for comparison with original elevations. Promptly notify Architect if changes in elevations occur or if cracks, sags or other damage is evident.

## **1.6 EXISTING UTILITIES**

- A. Protect existing active sewer, water, gas, electricity and other utility services and structures.
- B. Notify municipal agencies and service utility companies having jurisdiction. Comply with requirements of governing authorities and agencies for protection, relocation, removal and discontinuing of services, as affected by this work.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. General: Provide suitable shoring and bracing materials which will support loads imposed. Materials need not be new, but should be in serviceable condition.

## **PART 3 - EXECUTION**

### **3.1 BRACING**

- A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move a brace, install new bracing prior to removal of original brace.
- B. Do not place bracing where it will be cast into or included in permanent work, except as otherwise acceptable to Architect.
- C. Install internal bracing, if required, to prevent spreading or distortion to braced frames.
- D. Maintain bracing until structural elements are rebraced by other bracing or until permanent construction is able to pressures.
- E. Repair or replace, as acceptable to Architect, adjacent work damaged or displaced through installation or removal of shoring and bracing work.

**END OF SECTION 02150**

## **SECTION 04200 - UNIT MASONRY**

### **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 DESCRIPTION OF WORK**

- A. Extent of masonry work is indicated on the drawings.
- B. Type of masonry work required includes:
  - 1. Brick masonry.
  - 2. Mortar and grout.
  - 3. Concealed flashing
- C. Related Work:
  - 1. Section 07600 - Flashing, Sheet Metal and Roof Accessories.
  - 2. Section 07900 - Joint Sealer Assemblies.

#### **1.3 QUALITY ASSURANCE**

- A. Single Source Responsibility for Masonry Units: Obtain exposed masonry units of uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one manufacturer for each different product required for each continuous surface or visually related surfaces.
- B. Single Source Responsibility for Mortar Materials: Obtain mortar ingredients of uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.
- C. Field Constructed Mock-Ups: Prior to installation of masonry work, erect sample wall panels to further verify selections made for color and textural characteristics, under sample submittals of masonry units and mortar, and to represent completed masonry work for qualities of appearance, materials and construction.
- D. Build mock-up(s) in size of approximately 18" long by 18" high, brick panel to confirm selection of brick and mortar match.
- E. Source Quality Control: Materials and fabrication procedures are subject to inspection and tests in mill, shop, and field, conducted by a qualified inspection agency. Such inspections and tests will not relieve Contractor of responsibility for providing materials and fabrication procedures in compliance with specified requirements.
- F. Masonry Pre-Installation Meeting: Prior to installation of any above-grade masonry work, there shall be a Masonry Pre-Installation Meeting between the General Construction Work Contractor, all masonry Subcontractors (if any), and the Architect. At this meeting, all masonry construction products and procedures shall be reviewed.

#### **1.4 SUBMITTALS**

- A. Product Data: Submit manufacturer's product data for each type of masonry unit, accessory, and other manufactured products, including certifications that each type complies with specified requirements.
- B. Samples for Verification Purposes: Submit the following samples:
  - 1. For selection of brick, submit products of all local manufacturers that the manufacturers consider to be their closest match. Resubmit until match meets approval of Architect.
  - 2. Colored masonry mortar samples for each color required showing the full range of color which can be expected in the finished work. Label samples to indicate type and amount of colorant used.
- C. Shop Drawings: Submit shop drawings for the following:
  - 1. All locations of Vertical Control Joints for interior concrete masonry unit walls including control joints shown.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver masonry materials to project in undamaged condition.
- B. Store and handle masonry units to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion or other causes.
- C. Limit moisture absorption of concrete masonry units during delivery and until time of installation to the maximum percentage specified for Type I units for the average annual relative humidity as reported by the U.S. Weather Bureau Station nearest project site.
- D. Store cementitious materials off the ground, under cover and in dry location.
- E. Store aggregates where grading and other required characteristics can be maintained.
- F. Store masonry accessories including metal items to prevent deterioration by corrosion and accumulation of dirt.

#### **1.6 REFERENCE STANDARDS**

- A. Comply with the current applicable provisions of all codes, regulations, industry standards and specifications referenced in this section, unless otherwise modified by the requirements of the Contract Documents, including but not limited to the following:
  - 1. ACI 531 Building Code Requirements for Masonry Structures.
  - 2. ACI 531 Commentary on Building Code Requirements for Masonry Structures.
  - 3. ACI 530.1 Specification for Masonry Construction.
  - 4. ASTM C-90 Load Bearing Masonry Units.
  - 5. ASTM C-129 Non-Load Bearing Masonry Units.
  - 6. ASTM C 140 Testing Concrete Masonry Units.

7. ASTM C 216 Testing Facing Brick (Solid Masonry Units Made from Clay or Shale).
8. ASTM C 270 Standard Specification for Mortar for Unit Masonry
9. ASTM C 780 Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.
10. ASTM C 1586 Standard Guide for Quality Assurance of Mortars.
11. BIA Technical Notes on Brick Construction.
12. BIA Technical Notes on Brick Construction: Technical Note #46 "Maintenance of Brick Masonry.
13. ASTM E2357 Standard Test Method for Determining the Air Leakage of Air Barrier Assemblies.
14. ASTM E96 Water Vapor Transmission of Materials.

## 1.7 PROJECT CONDITIONS

- A. Do not apply uniform floor or roof loading for at least 12 hours after building masonry walls.
- B. Do not apply concentrated loads for at least 3 days after building masonry walls.
- C. Staining: Prevent grout or mortar or soil from staining the face of masonry to be left exposed. Remove immediately grout or mortar in contact with such masonry.
- D. Protect sills, ledges and projections from droppings of mortar.

## 1.8 WARRANTY

- A. The Contractor shall warrant the exterior walls to be free from leakage due to any natural cause for a period of **five (5) years** from date of final acceptance of the building and he shall, within such period at his own expense, upon written notification from the Owner, pursue such remedial measures as may be necessary to correct any condition of leakage and damage incidental thereto that may develop. The Contractor in signing this Contract accepts the above conditions. In so doing, he also agrees either that the materials and methods specified herein are such as to insure the results required or that he will, at no additional expense, furnish such additional or alternative items of labor and materials (or both) as may be necessary to accomplish the stated intent of the Contract.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Manufacturer: Obtain masonry units from one manufacturer, of uniform texture and color for each kind required, for each continuous area and visually related areas.
  1. Brick: Subject to compliance with requirements, manufacturers of brick units which may be incorporated in the work include, but are not limited to, the following:
    - a. Church Brick Company.
    - b. Consolidated Brick.
    - c. Diener Brick Company.
    - d. Tri-State Brick & Building Materials, Inc.
    - e. The Belden Brick Company.
    - f. Or approved equal.

## **2.2 BRICK MADE FROM CLAY OR SHALE**

- A. General: Comply with referenced standards and other requirements indicated below applicable to each form of brick required.
- B. Size: Provide bricks manufactured to the following actual dimensions: Match existing.
- C. Facing Brick: ASTM C 216, and as follows.
  - 1. Grade SW.
  - 2. Type: FBS.
  - 3. Compressive Strength: 8,000 psi, average, per ASTM C 67.
  - 4. Application: Use where brick is exposed, unless otherwise indicated.
  - 5. Texture and Color: Match existing.
  - 6. Wherever shown to "match existing", provide face brick of matching color, texture and size as existing adjacent brickwork.
- D. Efflorescence: Provide brick tested and rated in compliance with ASTM C67.

## **2.3 MORTAR AND GROUT MATERIALS**

- A. General: Do not add admixtures including coloring pigments, air-entraining agents, accelerators, retarders, water repellent agents, anti-freeze compounds or other admixtures, unless otherwise indicated.
  - 1. Do not use calcium chloride in mortar or grout.
- B. Limit cementitious materials in mortar to portland cement-lime.
- C. Portland Cement: ASTM C 150, Type 1, except Type III may be used for cold weather construction. Provide natural color or white cement as required to produce required mortar color.
- D. For colored aggregate mortars use masonry cement, ASTM C 91, of natural color or white as required to produce mortar colors required.
- E. Hydrated Lime: ASTM C 207, Type S.
- F. Aggregate for Mortar: ASTM C 144, except for joints less than 1/4 inch use aggregate graded with 100% passing the No. 16 sieve.
  - 1. White Mortar Aggregates: Natural white sand or ground white stone.
  - 2. Colored Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with record of satisfactory performance in masonry mortars.
- G. Mortar: ASTM C387, Type N. Provide mortar for face brick and accessories to match original mortar in color, texture, strength and hardness (density and porosity). Determine existing mortar mix constituents and ratios by analysis. Review laboratory evaluations with Architect before proceeding with the work. Match color of existing mortar by use of



aggregates matching original aggregate color where possible. Use inorganic coloring pigments if satisfactory color match cannot be attained with natural materials.

- H. The proper use of ASTM C 270 and Test Method ASTM C 780 for evaluating masonry mortars produced in the laboratory and the construction site is in accordance with ASTM C 1586.
- I. Aggregate for Grout: ASTM C 404.
- J. Water: Clean and potable.
- K. Colored Aggregate Mortar: Produce mortar of color required by use of colored aggregates in combination with selected cementitious materials.
  - 1. Colors as selected by the Architect from manufacturer's available full range of colors.

## 2.4 CONCEALED FLASHING MATERIALS

- A. **Type 2:** Thru-Wall Copper Fabric Flashing (Asphalt-Free): (At the head of window, door and unit ventilator masonry openings, existing columns in masonry cavity wall or where indicated). Provide end dams where shown, or as required.
  - 1. Basis of Design: "Multi Flash 500 Series", as manufactured by York Manufacturing, Inc.; or approved equal.
    - a. Subject to compliance with requirements of the Contract Documents, manufacturers offering products which may be incorporated in work include the following:
      - 1) "Copper Sealtite 2000®", as manufactured by Advanced Building Products Inc.,
      - 2) "Gorilla Flash GF-500, as manufactured by STS Coatings, Inc.,
      - 3) "Copper Seal", as manufactured by Wire-Bond, Inc.,
      - 4) Or approved equal.
  - 2. Type: Copper sheet bonded with rubber based adhesive, between two layers of fiberglass fabric weighing not less than 0.3 oz/layer with a minimum of 10 x 20 threads per inch.
    - a. Copper Type: CDA Alloy 110, 060 temper in accordance with ASTM B370.
    - b. Copper Weight: 5 oz. per square foot.
  - 3. Fabric: Fiberglass fabric; laminated to each face of copper core with core weight manufacturer identified on product with color coded laminate.
  - 4. Adhesive: Non-asphalt for laminating adhesive.
  - 5. Size: Manufacturer's standard roll width and length.
  - 6. Mastic/Sealant: Manufacturer's standard for specified flashing.
    - a. Type: One part 100% solids, solvent-free formulated silyl-terminated polyester (STPE), ASTM C920-11, Type S, Grade NS, Class 50.

7. Provide "FTSA" stainless steel drip plate as manufactured by Hohmann & Barnard, Inc.; Polyguard Products Inc.; Masonpro Inc.; Mortar Net USA Ltd.; or approved equal, adhered to the Perm-A-Barrier Wall Flashing, between the steel lintel and the exterior finish masonry.
  - a. Provide factory fabricated stainless-steel drip plate from ASTM A240, Type 304, 26 gauge continuous, Type FTS with 1/8" thick compressible filler adhered to bottom of drip plate.
    - 1) Extend horizontal leg flashing not less than 3-inches into masonry wall and bend down from outer edge of wall or steel lintel for 1/2" at 30 degree from horizontal, and hem.
    - 2) Fabricate in 8 to 12 feet lengths and provide stainless-steel splice plates at joints between lengths.
    - 3) Provide factory fabricated outside and inside corner pieces.
8. Termination Bar: Where indicated, or required, provide manufacturer's standard 1" wide, minimum by 1/8" thick, minimum by continuous length pre-punched stainless-steel bar or composite material bar complete with stainless-steel fasteners.
  - a. Subject to compliance with requirements of the Contract Documents, manufacturers offering products which may be incorporated in work include the following:
    - 1) Heckmann Building Products, Inc.,
    - 2) Or approved equal.
9. Provide specially fabricated units and interior corner conditions. Lap flashing a minimum of 6-inches and seal laps with mastic, or as recommended by manufacturer.

B. **Type 3:** At steel columns where present on the masonry wall assembly.

1. Basis of Design: "Perm-A-Barrier Wall Flashing", as manufactured by GCP Applied Technologies Inc.; or approved equal.
  - a. 40 mil (1 mm) total thickness self-adhesive, cold applied tape consisting of 32 mils (0.8 MM) of rubberized asphalt integrally bonded to a 8 mil (0.2 mm) high density, cross laminated polyethylene film. Rolls are interwound with disposable silicone-coated release sheet.
  - b. Provide specially premolded units at exterior and interior corner conditions. Lap flashing a minimum of 4-inches and seal laps with Bituthene mastic or as recommended by manufacturer.
  - c. Conditioning and Priming: Use "Perma-A-Barrier WB Primer" to enhance adhesion on dusty cementitious substrates.
    - 1) Use "Bituthene Primer B2" to prime green concrete or damp substrates.
2. Subject to compliance with requirements of the Contract Documents, manufacturers offering products which may be incorporated in work include the following:
  - a. W.R. Meadows,
  - b. Hohmann & Barnard, Inc.,
  - c. Or approved equal.

## 2.5 MISCELLANEOUS MASONRY ACCESSORIES

- A. Non-Metallic Expansion Joint Strips: Premolded, flexible cellular neoprene rubber filler strips complying with ASTM D 1056, Grade 2A1, capable of compression up to 35%, of width and thickness indicated.
- B. Weepholes: Provide the following for weepholes:
  - 1 Plastic, Rectangular with screen: Item # 342 W/S; Hohmann & Barnard, Inc.; or approved equal
    - a. Medium density polyethylene 3/8 inch x 1-1/2 inch x 3-1/2 inch clear color plastic with stainless steel screens and cotton wicks.

## 2.6 CAVITY INSULATION: See Section 07200.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION, GENERAL

- A. Wetting Clay Brick: Wet brick made from clay or shale which have ASTM C 67 initial rates of absorption (suction) of more than 30 grams per 30 sq. in. per minute. Use wetting methods which ensure each clay masonry unit being nearly saturated but surface dry when laid.
- B. Cleaning Reinforcing: Clean off all existing mortar from existing metal reinforcing before reusing.
- C. Thickness: Build cavity walls to the full thickness shown.
- D. Leave openings for equipment to be installed before completion of masonry work. After installation of equipment, complete masonry work to match work immediately adjacent to the opening.
- E. Cut masonry units using motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining work. Use full-size units without cutting where possible. No discoloration of units caused by cutting will be acceptable.
- F. Pattern Bond: Brick: Match existing.

#### 3.2 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces of columns, walls and arises do not exceed 1/4 inch in 10 feet, or 3/8 inch in a story height not to exceed 20 feet, nor 1/2 inch in 40 feet or more. For external corners, expansion joints, control joints and other conspicuous lines, do not exceed 1/4 inch in any story or 20 feet maximum, nor 1/2 inch in 40 feet or more. For vertical alignment of head joints do not exceed plus or minus 1/4 inch in 10 feet, 1/2 inch maximum.
- B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves and other conspicuous lines, do not exceed 1/4 inch in any bay or 20 feet

maximum, nor 1/2 inch in 40 feet or more. For top surface of bearing walls do not exceed 1/8 inch between adjacent floor elements in 10 feet or 1/16 inch within width of a single unit.

- C. Variation of Linear Building Line: For position shown in plan and related portion of columns, walls and partitions, do not exceed 1/2 inch in any bay or 20 feet maximum, nor 3/4 inch in 40 feet or more.
- D. Variation in Cross-Sectional Dimensions: For columns and thickness of walls, from dimensions shown, do not exceed minus 1/4 inch nor plus 1/2 inch.
- E. Variation in Mortar Joint Thickness: Do not exceed bed joint thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. Do not exceed head joint thickness indicated by more than plus or minus 1/8 inch.

### 3.3 LAYING MASONRY WALLS

- A. Layout walls in advance for accurate spacing of surface bond patterns with uniform joint widths and to accurately locate openings, movement-type joints, returns and offsets. Avoid the use of less-than-half-size units at corners, jambs and wherever possible at other locations.
- B. Lay-up walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other work.
- C. Stopping and Resuming Work: Rack back 1/2-unit length in each course; do not tooth. Clean exposed surfaces of set masonry, wet units lightly (if required) and remove loose masonry units and mortar prior to laying fresh masonry.
- D. Built-in Work: As the work progresses, build-in items specified under this and other sections of these specifications. Fill in solidly with masonry around built-in items.
  - 1. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod mortar or grout into core.
  - 2. Fill cores in hollow concrete masonry units with grout 3 courses (24 inches) under bearing plates, beams, lintels, posts and similar items, unless otherwise indicated.
- E. Support and protect masonry, indicated to remain, which surrounds removal area.
  - 1. Refer to BIA, Technical Note #46: "Maintenance of Brick Masonry", [www.gobrick.com/Portals/25/docs/Technical%20Notes/TN46.pdf](http://www.gobrick.com/Portals/25/docs/Technical%20Notes/TN46.pdf), for two recommended methods to properly support existing brickwork when installing new mechanically keyed through wall flashing, and as indicated below:
    - a. Method 1: Remove alternate sections of masonry in 2'-0" to 5'-0" (610 mm to 1.52m) lengths.
    - b. Method 2: Temporary braces can be installed to permit the removal of longer sections of masonry.

Note: The replaced masonry should be properly cured (5 to 7 days) before the intermediate masonry sections or supports are removed.

### 3.4 MORTAR BEDDING AND JOINTING

- A. Lay solid brick size masonry units with completely filled bed and head joint; butter ends with sufficient mortar to fill head joints and shove into place. Do not slush head joints.
- B. Maintain joint widths shown, except for minor variations required to maintain bond alignment. If not shown, lay walls with 3/8 inch joints.
- C. Cut joints flush for masonry walls which are to be concealed or to be covered by other materials, unless otherwise indicated.
- D. Tool exposed joints slightly concave using a jointer larger than joint thickness, unless otherwise indicated.
- E. Remove masonry units disturbed after laying; clean and reset in fresh mortar. Do not pound corners or jambs to shift adjacent stretcher units which have been set in position. If adjustments are required, remove units, clean off mortar and reset in fresh mortar.

### 3.5 CAVITY WALLS

- A. Keep cavity clean of mortar droppings and other materials during construction. Strike joints facing cavity flush.
- B. Tie exterior wythe with existing reused continuous horizontal joint reinforcing.
- C. Provide weep holes in exterior wythe of cavity wall located immediately above ledges and flashing, spaced 2'-0" o.c., unless otherwise indicated.
- D. Provide concealed flashing in cavity walls at all required locations and as indicated herein after.
- E. On units of plastic insulation, install small pads of mastic spaced approximately 1'-0" o.c. both ways on inside face, as recommended by manufacturer. Fit courses of insulation between wall ties and other confining obstructions in cavity, with edges butted tightly both ways. Press units firmly against inside wythe of masonry or other construction as shown.

### 3.6 FLASHING OF MASONRY WORK

- A. **NOTE: When Contractor must remove a portion of the existing masonry wall veneer in order to install through wall flashing or other work, the Contractor MUST follow the Brick Industry Association (Technical Note #46) and the Concrete Masonry Industry methodology to support and protect the existing adjacent masonry, indicated to remain, which surrounds removal area. The Contractor shall remove the proper length of masonry and leave adjacent masonry in place to support existing masonry above the work in lengths indicated below.**
  - 1. Refer to BIA, Technical Note #46: "Maintenance of Brick Masonry", [www.gobrick.com/Portals/25/docs/Technical%20Notes/TN46.pdf](http://www.gobrick.com/Portals/25/docs/Technical%20Notes/TN46.pdf), for two recommended methods to properly support existing brickwork when installing new mechanically keyed through wall flashing, and as indicated below:

- a. **Method 1:** Remove alternate sections of masonry in 2'-0" to 5'-0" (610 mm to 1.52m) lengths.
- b. **Method 2:** Temporary braces can be installed to permit the removal of longer sections of masonry.

Note: The replaced masonry should be properly cured (5 to 7 days) before the intermediate masonry sections or supports are removed.

- B. General: Provide concealed flashing in masonry work at, or above, shelf angles, lintels, ledges and the base of perimeter cavity walls and other obstructions to the downward flow of water in the wall so as to divert such water to the exterior. Prepare masonry surfaces smooth and free from projections which could puncture flashing. Place through-wall flashing in wall and cover with mortar. Seal penetrations in flashing with mastic before covering with mortar. Extend flashings through exterior face of masonry and turn down to form drip.
  1. **Contractor shall provide concealed flashing in masonry at all required conditions, whether shown or not, and shall be typical and/or similar for all building conditions when details and notes are shown on drawings.**
  2. **Contractor shall provide spandrel beam membrane flashings for all steel beams or columns exposed to cavity, whether shown or not, and shall be typical and/or similar for all building conditions when details and notes are shown on drawings.**
  3. **Contractor shall provide mechanically keyed through wall flashings at rising walls above roof conditions and or where indicated in cavity wall construction, whether shown or not. Flashings shall be typical and/or similar for all building conditions when details and notes are shown on drawings.**
    - a. Set mechanically keyed through wall flashing in thin layer of mortar. Set masonry course above flashing in light layer of mortar.
- C. Extend flashing the full length of ledges. Lap all flashing a minimum of 4 inches and seal laps with mastic or as recommended by manufacturer. Extend flashing from exterior face of outer wythe of masonry, through the outer wythe, turned up a minimum of 8 inches, and through the inner wythe to within third of width of the inner wythe as indicated on drawings.
- D. Extend flashing the full length of lintels and shelf angles and minimum of 4 inches into masonry each end. Extend flashing from exterior face of outer wythe of masonry, through the outer wythe, turned up a minimum of 8 inches, and through the inner wythe to within 1/2" of the interior face of the wall in exposed work. Where interior surface of inner wythe is concealed by furring, carry flashing completely through the inner wythe and turn up approximately 2 inches.
  1. At heads and sills flashing shall extend 6 inches beyond each side of the opening and to be turned up at the sides/ends not less than 2 inches to form a pan, (end dam). All corners shall be folded, not cut.
- E. Lap all flashing a minimum of 4 inches and seal laps with mastic or as recommended by manufacturer.
- F. Provide weep holes in the head joints of the same course of masonry bedder in the flashing mortar. Space 24 inches o.c., unless otherwise indicated.

- G. Install reglets and nailers for flashing and other related work where shown to be built into masonry work.

### **3.7 REPAIR, POINTING AND CLEANING**

- A. Remove and replace masonry units which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in fresh mortar or grout, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge any voids or holes, except weep holes, and completely fill with mortar. Point-up all joints including corners, openings and adjacent work to provide a neat, uniform appearance, prepared for application of sealants.
- C. Clean exposed brick masonry surfaces by the bucket and brush hand cleaning method or by high pressure water method. Comply with requirements of BIA Technical Notes No. 20 "Cleaning Brick Masonry".
  - 1. Use commercial cleaning agents in accordance with manufacturer's instructions.

**END OF SECTION 04200**

## **SECTION 04500 - MASONRY RESTORATION AND CLEANING**

### **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 DESCRIPTION OF WORK**

- A. Extent of masonry restoration work is indicated on drawings and in schedules.
- B. Masonry restoration work includes the following:
  - 1. Repointing mortar joints.
  - 2. Rake out coping joints (vertical, horizontal, and sloped). Install backer rod and sealants as specified.
- C. Joint sealers are specified in a Division-7 section.

#### **1.3 QUALITY ASSURANCE**

- A. Restoration Specialist: Work must be performed by a firm having not less than 5 years successful experience in comparable masonry restoration projects and employing personnel skilled in the restoration processes and operations indicated.
- B. Source of Materials: Obtain materials for masonry restoration from a single source for each type of material required (cement, sand etc.) to ensure match of quality, color, pattern and texture.

#### **1.4 SUBMITTALS**

- A. Product Data: Submit manufacturers' technical data for each product indicated including recommendations for their application and use. Include test reports and certifications substantiating that products comply with requirements.
- B. Samples: Submit, for verification purposes, prior to mock-up erection, samples of the following:
  - 1. Each new exposed masonry material to be used for replacing existing materials. Include in each set of samples the full range of colors, colors and textures to be expected in completed work.
  - 2. Each type of cleaning material.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Carefully pack, handle, and ship masonry units and accessories strapped together in suitable packs or pallets or in heavy cartons. Unload and handle to prevent chipping and breakage.



- B. Deliver other materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and names of products and manufacturers.
- C. Protect masonry restoration materials during storage and construction from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.
- D. Protect grout, mortar and other materials from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

## **1.6 REFERENCE STANDARDS**

- A. Comply with the current applicable provisions of all codes, regulations, industry standards and specifications referenced in this section, unless otherwise modified by the requirements of the Contract Documents, including but not limited to the following:
  - 1. **BIA - Technical Notes on Brick Construction: Technical Note #46 "Maintenance of Brick Masonry."**

## **1.7 PROJECT CONDITIONS**

- A. Clean masonry surfaces only when air temperatures are 40°F (4°C) and above and will remain so until masonry has dried out, but for not less than 7 days after completion of cleaning.
- B. Do not repoint mortar joints or repair masonry unless air temperatures are between 40°F (4°C) and 80°F (27°C) and will remain so for at least 48 hours after completion of work.
- C. Prevent grout or mortar used in repointing and repair work from staining face of surrounding masonry and other surfaces. Remove immediately grout and mortar in contact with exposed masonry and other surfaces.
- D. Protect sills, ledges and projections from mortar droppings.

## **1.8 SEQUENCING / SCHEDULING**

- A. Perform masonry restoration work in the following sequence:
  - 1. Inspect for open mortar joints before cleaning to prevent the intrusion of water and other cleaning materials into the wall assembly.
  - 2. Rake-out existing mortar from joints.
  - 3. Point existing mortar joints of masonry indicated to be restored.
  - 4. After repairs and repointing have been completed and cured, perform a final cleaning of existing masonry surfaces to clean residues from the work.

## **PART 2 - PRODUCTS**

### **2.1 MASONRY MATERIALS**

- A. Face Brick and Accessories: Provide face brick and accessories, including units for lintels, arches, corners, and other special ground, cut, or sawed shapes where required to complete masonry restoration work.
  - 1. Provide units with color, surface texture and size to match existing brick work and with physical properties not less than those determined from preconstruction testing, of selected existing units.

### **2.2 MORTAR MATERIALS**

- A. Portland Cement: ASTM C 150, Type I.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Quicklime: ASTM C5, pulverized lime.
- D. Aggregate for Mortar: ASTM C 144, except for joints less than 1/4" use aggregate graded with 100% passing the No. 16 sieve.
- E. Mortar: (Repointing Existing Older Brick) - ASTM C 270, Type "O" mortar for Restoration Work. Provide low strength mortar for restoration work of older masonry and to match original mortar in color, and texture. In order to confirm the strength of the existing mortar, the existing mortar mix constituents and ratios shall be analyzed by a qualified Testing Laboratory. Review laboratory evaluations with Architect before proceeding with the work. Match color of existing mortar by use of aggregates matching original aggregate color where possible. Use inorganic coloring pigments if satisfactory color match cannot be attained with natural materials.
- F. Mortar: (Repointing Existing Newer Brick) - ASTM C 270, Type "N" mortar for repointing Work. Provide general all-purpose mortar for repointing work of newer brickwork and to match original mortar in color, and texture. In order to confirm the strength of the existing mortar, the existing mortar mix constituents and ratios shall be analyzed by a qualified Testing Laboratory. Review laboratory evaluations with Architect before proceeding with the work. Match color of existing mortar by use of aggregates matching original aggregate color where possible. Use inorganic coloring pigments if satisfactory color match cannot be attained with natural materials.
- G. Water: Clean, free of oils, acids, alkalis and organic matter.

### **2.3 CLEANING MATERIALS AND EQUIPMENT**

- A. Water for Cleaning: Clean, potable, free of oils, acids, alkalis, salts, and organic matter.
- B. Hot Water: Heat water to temperature of 140 to 160°F (60 to 71°C).

- C. Brushes: Fiber bristle only.
- D. Spray Equipment: Provide equipment for controlled spray application of water and chemical cleaners, if any, at rates indicated for pressure, measured at spray tip, and for volume.
- E. For spray application of heated water provide equipment capable of maintaining temperature, at flow rates indicated, between 140 to 160°F (60 to 71°C).

## **2.4 ACCESSORY MATERIALS**

- A. Sealant Materials:
  - 1. Provide manufacturer's standard chemically curing, elastomeric sealant(s) of base polymer and characteristics indicated below that comply with applicable requirements in Section 07900 "Joint Sealer Assemblies".
  - 2. Colors: Provide colors of exposed sealants to match colors of masonry adjoining installed sealant unless otherwise indicated.
- B. Joint-Sealant Backing:
  - 1. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

## **PART 3 - EXECUTION**

### **3.1 PROTECTION**

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.
  - 1. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of restoration and cleaning work.
- B. Prevent mortar from staining face of surrounding masonry and other surfaces.
  - 1. Cover sills, ledges, and projections to protect from mortar droppings.
  - 2. Keep wall area wet below rebuilding and pointing work to discourage mortar from adhering.
  - 3. Immediately remove mortar in contact with exposed masonry and other surfaces.
  - 4. Clean mortar splatters from scaffolding at end of each day.
- C. Remove gutters and downspouts (as required to get access to masonry) adjacent to masonry and store where indicated during masonry restoration and cleaning. Reinstall when masonry restoration and cleaning are complete.

1. Provide temporary rain drainage during work as required to direct water away from building.

### **3.2 SURFACE CONDITIONS**

- A. Inspection: Examine areas and conditions under which masonry restoration work is to be conducted and notify Owner of conditions detrimental to proper and timely completion of the work. Do not proceed with the work until satisfactory conditions have been adequately corrected.
- B. Discrepancies: In the event of discrepancy, immediately notify the Architect.
- C. Repointing is required wherever hairline or larger cracks have occurred, where jointing is loose or missing or otherwise defective.
  1. Loose, broken or cracked mortar.
  2. Deteriorated, disintegrated or soft mortar.
  3. Hollow and shell joints.
  4. Joints where mortar is separated. (This will be determined by using a thin blade pen knife. If the blade can be shoved in 3/16" or more, the joint will be considered defective.)
  5. Where mortar is missing.

### **3.3 CLEANING EXISTING MASONRY, GENERAL**

- A. Proceed with cleaning in an orderly manner; work from top to bottom of each scaffold width and from one end of each elevation to the other.
- B. Use only those cleaning methods indicated for each masonry material and location.
- C. Perform each cleaning method indicated in a manner which results in uniform coverage of all surfaces, including corners, moldings, interstices and which produces an even effect without streaking or damage to masonry surfaces.
- D. Water Application Methods:
  1. Spray Applications: Spray-apply water to masonry surfaces to comply with requirements indicated for location, purpose, water temperature, pressure, volume and equipment. Unless otherwise indicated, hold spray nozzle not less than 6" from surface of masonry and apply water from side to side in overlapping bands to produce uniform coverage and an even effect.
  2. Medium Pressure Spray: 400-800 psi; 3-6 gallons per minute.

### **3.4 CLEANING BRICKWORK**

- A. Warm Water Wash: At locations indicated, clean brick masonry surfaces with warm water applied as follows:
  - 1. Medium pressure spray.
- B. All exterior masonry shall be cleaned using equipment having the capacity to deliver water at the nozzle with a minimum of 600 lbs. of pressure. This equipment shall be used to eliminate the necessity of using chemicals, acids, detergents, sand or any other cleaning compounds. Cleaning operations shall commence at the top of the building and continue progressively down the face of the building.
  - 1. The Contractor shall repeat the cleaning process until all dirt, stains or other defacements that may interfere with mask grouting, waterproofing, elastomeric coating or general appearance of the building are completely removed to the satisfaction of the Architect.
  - 2. Complete all cleaning prior to undertaking remainder of work under this section.

### **3.5 REPOINTING EXISTING MASONRY**

- A. Joint Raking:
  - 1. Rake out mortar from joints to depths equal to 2-1/2 times their widths but not less than 1/2" nor less than that required to expose sound, unweathered mortar.
  - 2. Remove defective mortar from existing joints to a depth of at least 3/4" or as necessary to reach solid backing. Cut out joints square to fully expose joint sides and remove all loose or deteriorated mortar from all brick or cast stone edges. Where cut-outs exceed 3/4" depth, reduce depths to approximately 1" with mortar fill preparatory to the pointing. If no backing exists, pack oakum or backer rod solidly and tightly into joints to a distance of approximately 1" back from surface. Remove dust and loose materials by brushing or with water or air-jet.
  - 1. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum or flush joints to remove dirt and loose debris.
  - 2. Do not spall edges of masonry units or widen joints. Replace any masonry units which become damaged.
  - 3. Cut out old mortar by hand with chisel and mallet, unless otherwise indicated.
  - 4. Power operated rotary hand saws and grinders will be permitted but only on specific written approval of Architect based on submission by Contractor of a satisfactory quality control program and demonstrated ability of operators to use tools without damage to masonry. Quality control program shall include provisions for supervising performance and preventing damage due to worker fatigue.

B. Joint Pointing:

1. Rinse masonry joint surfaces with water to remove any dust and mortar particles. Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.
2. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8" until a uniform depth is formed. Compact each layer thoroughly and allow to become thumbprint-hard before applying next layer.
3. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with each of first and second layers filling approximately 2/5 of joint depth and third layer the remaining 1/5. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have rounded edges recess final layer slightly from face. Take care not to spread mortar over edges onto exposed masonry surfaces, or to featheredge mortar.
4. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
5. Cure mortar by maintaining in a damp condition for not less than 72 hours.
  - a. Where repointing work precedes cleaning of existing masonry allow mortar to harden not less than 30 days before beginning cleaning work.

**3.6 FINAL CLEANING**

- A. Promptly as work proceeds and upon completion, remove all excess mortar, smears, droppings.
- B. After mortar has fully hardened thoroughly clean exposed masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water, spray applied at low pressure.
- C. Sweep up and remove daily all sand, cleaning compounds and mixtures, dirt, debris and rubbish.
- D. Allow mortar to fully harden for approximately 30 days after completion of work, then thoroughly clean exposed masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle bushes and clean water under normal pressure.
- E. Use of metal scrapers or brushes will not be permitted.
- F. Use of acid or alkali cleaning agents will not be permitted.

**END OF SECTION 04500**

**FVHD-5295**

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## SECTION 05400 - MISCELLANEOUS STRUCTURAL STEEL

### 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 DESCRIPTION OF WORK

- A. Definition: Miscellaneous structural steel include items made from iron and steel shapes, plates, bars, strips, tubes, pipes and castings which are not a part of Structural Steel or other metal fabrication systems specified elsewhere.
- B. Extent of miscellaneous structural steel fabrications is indicated on drawings and schedules.
  - 1. Work of this section shall include miscellaneous structural steel framing and supports for wall openings whether or not shown on architectural drawings.
    - a. Refer to architectural drawings for the locations and sizes of wall openings, etc.
    - b. All miscellaneous structural steel supports shall be in accordance with typical structural steel details and schedules shown on architectural drawings and/or as directed by the Architect.
    - c. All miscellaneous structural steel supports shall meet indicated load requirements and/or as directed by the Architect.
    - d. In existing building(s) where alteration and/or renovation work is/are indicated, refer to Division 1 Sections for miscellaneous structural steel framing and supports which may be assigned to be provided and installed by other Trades.
- C. Types of work in this section include metal fabrications for:
  - 1. Loose Steel lintels, bearing and leveling plates and miscellaneous steel framing and supports
- D. Related Sections:
  - 1. Section 01400 - Testing Laboratory Service.
  - 2. Section 04200 - Unit Masonry
  - 3. Section 05500 - Metal Fabrications
  - 4. Section 09900 - Painting

#### 1.3 QUALITY ASSURANCE

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress; allow for trimming and fitting where taking field measurements before fabrications might delay work.
- B. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

C. Delegated Design:

1. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated. Designated Design includes, but is not limited to:
  - a. Miscellaneous steel framing, bearing plates and other components.
2. Professional Engineer Qualifications: A professional engineer legally authorized to practice in the jurisdiction where Project is located, (State of New Jersey), and experienced in providing engineering services of the kind indicated that have resulted in the installation of structural assemblies, similar to this Project in material, design, and extent and that has a record of successful in-service performance. Provide analysis data and signed & sealed documents.
3. Conform to all applicable State and Local Codes for design loads and all other requirements.
4. Refer to paragraph 1.4 - SUBMITTALS (below).

D. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code-Steel," and AWS D1.3, "Structural Welding Code-Sheet Steel."

#### **1.4 SUBMITTALS**

- A. Product Data: Submit manufacturer's specifications, anchor details and installation instructions for products used in miscellaneous metal fabrications, including paint products and grout.
- B. Shop Drawings: Submit shop drawings for fabrication and erection of miscellaneous steel fabrications. Include plans, elevations and details of sections and connections. Show anchorage and accessory items. Provide templates for anchor and bolt installation by others.
  1. Submit shop drawings for miscellaneous steel framing and supports. Signed and sealed shop drawings shall be submitted by a qualified professional Structural Engineer, licenced in the state where project is located
- C. Where materials or fabrications are indicated to comply with certain requirements for design loadings, include structural computations, material properties and other information needed for structural analysis.
- D. Samples: Submit 2 sets of representative samples of materials and finished products as may be requested by Architect.

### **PART 2 - PRODUCTS**

#### **2.1 MATERIALS**

- A. Metal Surfaces, General: For fabrication of miscellaneous structural steel work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness.



B. Steel

1. Steel Plates, Shapes and Bars: ASTM A 36.
2. Steel Tubing: Cold-formed, ASTM A 500; or hot-rolled, ASTM A 501.
3. Structural Steel Sheet: Hot-rolled, ASTM A 570; or cold-rolled ASTM A 611, Class 1; of grade required for design loading.
4. Galvanized Structural Steel Sheet: ASTM A 446, of grade required for design loading. Coating designation as indicated, or if not indicated, G90.
5. Gray Iron Castings: ASTM A 48, Class 30.
6. Malleable Iron Castings: ASTM A 47, grade as selected by fabricator

C. Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.

D. Grout:

1. Metallic Non-Shrink Grout: Pre-mixed, factory-packaged, ferrous aggregate grout complying with CE CRD-C588, Type M.
2. Non-Shrink Non-Metallic Grout: Pre-mixed, factory-packaged, non-staining, non-corrosive, non-gaseous grout complying with CE CRD-C621. Provide grout specifically recommended by manufacturer for interior and exterior applications of type specified in this section.

E. Fasteners:

1. General: Provide zinc-coated fasteners for exterior use or where built into exterior walls. Select fasteners for the type, grade and class required.
2. Bolts and Nuts: Regular hexagon head type, ASTM A 307, Grade A.
3. Lag Bolts: Square head type, FS FF-B-561.
4. Machine Screws: Cadmium plated steel, FS FF-S-92.
5. Plain Washers: Round, carbon steel, FS FF-W-92.
6. Masonry Anchorage Devices: Expansion shields, FS FF-S-325.

F. Toggle Bolts: Tumble-wing type, FS FF-B-588, type, class and style as required.

1. Lock Washers: Helical spring type carbon steel, FS FF-W-84.

G. Paint:

1. Surface Preparation: SSPC-2P6 commercial Blast Cleaning.
2. Primer: Tnemec Series 90-97 Tneme-Zinc, or equal, @ 2.5 - 3.5 mils (dry)
3. Primer selected must be compatible with finish coats of paint. Coordinate selection of metal primer with finish paint requirements specified in Section 09900.

## 2.2 FABRICATION, GENERAL

- A. Workmanship: Use materials of size and thickness indicated, or if not indicated, as required to produce strength and durability in finished product for use intended. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of work.
- B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32" unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- C. Weld corners and seams continuously, complying with AWS recommendations. At exposed connections, grind exposed welds smooth and flush to match and blend with adjoining surfaces.
- D. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts.
- E. Provide for anchorage of type indicated, coordinated with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.
- F. Galvanizing:
  - 1. Provide a zinc coating for exterior items and those items indicated or specified to be galvanized, as follows:
    - a. ASTM A 153 for galvanizing iron and steel hardware.
    - b. ASTM A 123 for galvanized rolled, pressed and forged steel shapes, plates, bars and strip 1/8" thick and heavier.
    - c. ASTM A 386 for galvanizing assembled steel products.
- G. Shop Painting
  - 1. Shop paint miscellaneous structural steel, except members or portions of members to be embedded in masonry, surfaces and edges to be field welded, and galvanized surfaces, unless otherwise indicated.
  - 2. Remove scale, rust and other deleterious materials before applying shop coat. Clean off heavy rust and loose mill scale in accordance with SSPC SP-6.
  - 3. Immediately after surface preparation, brush or spray on primer in accordance with manufacturer's instructions. Use painting methods which will result in full coverage of joints, corners, edges and exposed surfaces.
  - 4. Apply one shop coat to fabricated metal items, except apply two coats of paint to surfaces inaccessible after assembly or erection. Change color of second coat to distinguish it from the first.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as miscellaneous items having integral anchors, which are to be embedded in masonry construction. Coordinate delivery of such items to project site.
  - 1. Coordinate work of this section with other work affected by other Trades.
  - 2. Obtain locations, opening sizes, weighs and other required information from affected trades.
  - 3. Comply with coordination requirements indicated in Division 1 Sections.

### **3.2 INSTALLATION**

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction; including, threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws and other connectors as required.
- B. Cutting, Fitting and Placement: Perform cutting, drilling and fitting required for installation of miscellaneous metal fabrications. Set work accurately in location, alignment and elevation, plus, level, true and free of rack, measured from established lines and levels. Provide temporary bracing or anchors in formwork for items which are to be built into concrete masonry or similar construction.
- C. Fit exposed connections accurately together to form tight hairline joints. Weld connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind exposed joints smooth and touch-up shop paint coat. Do not weld, cut or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication, and are intended for bolted or screwed field connections.
- D. Field Welding: Comply with AWS Code for procedures of manual shielded metal-arc welding, appearance and quality of welds made, and methods used in correcting welding work.
- E. Set loose lintels weighing more than 200 pounds, leveling and grouting as for plates. Deliver loose lintels weighing less than 200 pounds to the General Construction Contractor, allow sufficient time for scheduling the installation.

### **3.3 ADJUST AND CLEAN**

- A. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting.
- B. Apply by brush or spray to provide a minimum dry film thickness of 2.0 mils.

- C. For galvanize surfaces: Clean field welds, bolted connections and abraded areas and apply galvanizing repair paint to comply with ASTM A 780.

**END OF SECTION 05400**

## **SECTION 05500 - METAL FABRICATIONS**

### **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 DESCRIPTION OF WORK**

- A. Definition: Metal fabrications include items made from iron and steel shapes, plates, bars, strips, tubes, pipes and castings which are not a part of structural steel or other metal systems specified elsewhere and non-ferrous items listed herein.
- B. Type of work in this section includes metal fabrications for assemblies which include but are not limited to the following:
  - 1. Rough hardware.
  - 2. Miscellaneous structural shapes.
  - 3. Post Installed Anchors.
- C. Related Work:
  - 1. Section 04200 - Unit Masonry
  - 2. Section 05400 - Miscellaneous Structural Steel
  - 3. Section 09900 - Painting

#### **1.3 QUALITY ASSURANCE**

- A. Codes and Standards:

ASTM A108-99 - Standard Specification for Steel Bars, Carbon, Cold-Finished, Standard Quality.

ASTM A123 - Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products.

ASTM A276-03 - Standard Specification for Stainless Steel Bars and Shapes.

ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.

ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

ASTM A563-00 - Standard Specification for Carbon and Alloy Steel Nuts.

ASTM A569/A569M-91a - Standard Specification for Steel, Carbon (.15 Maximum, Percent), Hot-Rolled Sheet and Strip Commercial Quality (superseded by A1011).

ASTM A780-01 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

ASTM A1011/A1011M-03 - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.

ASTM F844-00 - Standard Specification for Washers, Steel, Plain (Flat), Unhardened for General Use.

AWS D1.1/D1.1M: Structural Welding Code - Steel, Welding qualification procedures and personnel.

ASTM A385/A385M for vent / drainage hole requirements in steel that will be galvanized.

- B. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress; allow for trimming and fitting where taking field measurements before fabrications might delay work.
- C. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

#### **1.4 SUBMITTALS**

- A. Product Data: Submit manufacturer's specifications, anchor details and installation instructions for products used in miscellaneous metal fabrications, including paint products and grout.
- B. Shop Drawings: Submit shop drawings for fabrication and erection of miscellaneous metal fabrications. Include plans, elevations and details of sections and connections. Show anchorage and accessory items. Provide templates for anchor and bolt installation by others.
- C. Where materials or fabrications are indicated to comply with certain requirements for design loadings, include structural computations, material properties and other information needed for structural analysis.
- D. Samples: Submit 2 sets of representative samples of materials and finished products as may be requested by Architect.
- E. Mill test reports: Reports indicating metals to be furnished comply with project requirements.

### **PART 2 - PRODUCTS**

#### **2.1 MATERIALS**

- A. Metal Surfaces, General: For fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness.
- B. Aluminum: Comply with the following standards for the forms and types of aluminum for the required items of work.
  - 1. Alloy and Temper: Provide alloy and temper as recommended by the aluminum producer or finisher, with not less than the strength and durability properties specified in ASTM B 632/B 632 M, alloy 6061-T6.

2. Welding Electrodes and Filler Metal: Type and alloy of filler metal and electrodes as recommended by producer of the metal to be welded, and as required for color match, strength and compatibility in the fabricated items.
3. Fasteners: Finish of basic metal and alloy, matching finished color and texture as the metal being fastened, unless otherwise indicated. Unless otherwise shown, provide Phillips flat-head screws for exposed fasteners.
4. Bituminous Paint: SSPC-Paint (cold-applied asphalt mastic).
5. Protective Lacquer: Clear non-yellowing, of type recommended by metal producer for protection of the finished metal surfaces.
6. Aluminum Pipe and Tube: ASTM B 429, Alloy 6063-T6.
7. Aluminum Extrusions: ASTM B 221, Alloy 6063-T6.
8. Aluminum Plate and Sheet: ASTM B 209, Alloy 6061-T6.
9. Aluminum Castings: ASTM B 26/B 26M, Alloy 443.0-F.

C. Steel

1. Steel Plates, Shapes and Bars: ASTM A 36/A 36M.
2. Steel Tubing: Cold-formed, ASTM A 500; or hot-rolled, ASTM A 501.
3. Structural Steel Sheet: Hot-rolled, ASTM A 570; or cold-rolled ASTM A 611, Class 1; of grade required for design loading.
4. Galvanized Structural Steel Sheet: ASTM A 446, of grade required for design loading. Coating designation as indicated, or if not indicated, G90.
5. Steel Pipe: ASTM A 53; Type and grade (if applicable) as selected by fabricator and as required for design loading; black finish unless galvanizing is indicated; standard weight (schedule 40), unless otherwise indicated.

D. Gray Iron Castings: ASTM A 48, Class 30.

E. Malleable Iron Castings: ASTM A 47, grade as selected by fabricator.

F. Stainless Steel Sheet, Strip, Plate and Flat Bars: ASTM A 666, Type 304, unless otherwise indicated.

1. Stainless Bars and Shapes: ASTM A 276, Type 304.

G. Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.

H. Grout:

1. Non-Shrink, Metallic Grout: Pre-mixed, factory-packaged, ferrous-aggregate grout complying with CE CRD-C588, Type M, and ASTM C 1107, specifically recommended by manufacturer for heavy-duty loading applications and not to be used in wet areas or on exterior applications.
2. Non-Shrink, Non-Metallic Grout: Pre-mixed, factory-packaged, non-staining, non-corrosive, non-gaseous grout complying with CE CRD-C621, and ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications of type specified in this section.

I. Fasteners:

1. General: Provide zinc-plated fasteners complying with ASTM B 633, Class Fe/Zn 5, for exterior use or where built into exterior walls. Select fasteners for the type, grade and class required.
2. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A, with hex nuts, ASTM A 563; and where needed, flat washers.
3. Weathering Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 325, Type 3, with hex nuts, ASTM A 563, Grade C3; and where needed, flat washers.
4. Lag Screws: Square head type, ASME B18.2.1.
5. Machine Screws: Cadmium plated steel, ASME B18.6.3.
6. Wood Screws: Flat head, carbon steel, ASME B18.6.1.
7. Plain Washers: Round, carbon steel, ASME B18.22.1.
8. Masonry Anchorage Devices: Expansion shields, FS FF-S-325.
9. Expansion Anchors: Anchor bolt and sleeve assembly; Carbon-steel components zinc-plated to comply with ASTM B 633, Class Fe/Zn 5.
10. Toggle Bolts: Tumble-wing type, FS FF-B-588, type, class and style as needed.
11. Lock Washers: Helical, spring type, carbon steel, ASME B18.21.1.
12. Anchor Bolts: ASTM F 1554, Grade 36, of dimension indicated; with nuts, ASTM A 563; and where indicated, flat washers.

- J. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.



K. Post-Installed Anchors:

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633, Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel is indicated: Alloy Group 1 (A1) stainless-steel bolts, ASTM F 593 and nuts, ASTM F 594.

L. Paint:

1. Metal Primer Paint: Red lead mixed pigment, alkyd varnish, linseed oil paint, FS TT-P-86I, Type II; or red lead iron oxide, raw linseed oil, alkyd paint, Steel Structures Painting Council (SSPC) Paint 2-64; or basic lead silico chromate base iron oxide, linseed oil, alkyd paint, FS TT-P-615, Type II.
2. Primer selected must be compatible with finish coats of paint. Coordinate selection of metal primer with finish paint requirements specified in Section 09900.
3. Galvanizing Repair Paint: High-zinc-dust content paint for regalvanizing welds in galvanized steel, complying with the Military Specifications MIL-P-21035 (Ships) or SSPC-Paint-20 and compatible with paints specified to be used over it.

## 2.2 FABRICATION, GENERAL

A. Workmanship

1. Use materials of size and thickness indicated, or if not indicated, as required to produce strength and durability in finished product for use intended. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of work.
2. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32" unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
3. Weld corners and seams continuously, complying with AWS recommendations. At exposed connections, grind exposed welds smooth and flush to match and blend with adjoining surfaces.
4. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts.
5. Provide for anchorage of type shown, coordinated with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.
6. Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware and similar items.

B. Galvanizing:

1. Provide a zinc coating for exterior steel items and those items indicated or specified to be galvanized, as follows:
  - a. ASTM A 153 for galvanizing iron and steel hardware.
  - b. ASTM A 123 for galvanized rolled, pressed and forged steel angles, corner guards, other indicated shapes, plates, bars, bollards and strip 1/8" thick and heavier.
  - c. ASTM A 386 for galvanizing assembled steel products.

C. Shop Painting

1. Shop paint miscellaneous metal work, except members of portions of members to be embedded in concrete or masonry, surfaces and edges to be field welded, and galvanized surfaces, unless otherwise indicated.
2. Remove scale, rust and other deleterious materials before applying shop coat. Clean off heavy rust and loose mill scale in accordance with SSPC SP-2 "Hand Tool Cleaning", or SSPC SP-3 "Power Tool Cleaning", or SSPC SP-7 "Brush-Off Blast Cleaning".
3. Remove oil, grease and similar contaminants in accordance with SSPC SP-1 "Solvent Cleaning".
4. Immediately after surface preparation, brush or spray on primer in accordance with manufacturer's instructions, and at a rate to provide uniform dry film thickness of 2.0 mils for each coat. Use painting methods which will result in full coverage of joints, corners, edges and exposed surfaces.
5. Apply one shop coat to fabricated metal items, except apply two (2) coats of paint to surfaces inaccessible after assembly or erection. Change color of second coat to distinguish it from the first.

## 2.3 MISCELLANEOUS METAL FABRICATIONS

A. Rough Hardware

1. Furnish bent or otherwise custom fabricated bolts, plates, anchors, hangers, dowels and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete or other structures. Straight bolts and other stock rough hardware items as specified in Division-6 sections.
2. Fabricate items to sizes, shapes and dimensions required. Furnish malleable-iron washers for heads and nuts which bear on wood structural connections; elsewhere, furnish steel washers.

B. Miscellaneous Structural Shapes, Framing and Supports, Etc.

1. Provide miscellaneous steel framing and supports which are not a part of structural steel framework, as required to complete work.

2. Fabricate miscellaneous units to sizes, shapes and profiles indicated or, if not indicated, of required dimensions to receive adjacent other work to be retained by framing. Except as otherwise indicated, fabricated from structural steel shapes, plates and steel bars of welded construction using mitered joints for field connection. Cut, drill and tap units to receive hardware and similar items.
3. Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is placed.
4. Galvanize exterior miscellaneous frames and supports.

## 2.4 MISCELLANEOUS MATERIALS

### A. Injectable Mortar: Provide and install injectable mortar at all post-installed anchors, as follows:

1. Except where indicated on the drawings, post-installed anchors shall consist of the following anchor types as provided by Hilti, Inc.; or approved equal.
  - a. Anchorage to Concrete
    - 1) Adhesive anchors for cracked and uncracked concrete:
      - a) Hilti HIT-HY 200 Safe Set System with Hilti HIT-Z ROD per ICC ESR-3187.
      - b) Hilti HIT-HY 200 Safe Set System with Hilti Hollow Drill Bit System with HAS-E threaded rod per ESR-3187.
      - c) Hilti HIT-RE 500-SD Epoxy Adhesive Anchoring System with HAS-E Threaded Rod per ICC ESR-2322 for slow cure applications.
    - 2) Medium duty mechanical anchors for cracked and uncracked concrete:
      - a) Hilti KWIK HUS-EZ and KWIK HUS EZ-I Screw Anchors per ICC ESR-3027.
      - b) Hilti KWIK BOLT-TZ Expansion Anchors per ICC ESR-1917.
      - c) Hilti KWIK BOLT 3 Expansion Anchors (uncracked concrete only) per ICC ESR-2302.
    - 3) Heavy Duty mechanical anchors for cracked and uncracked concrete:
      - a) Hilti HDA Undercut Anchors per ICC ESR 1546.
      - b) Hilti HSL-3 Expansion Anchors per ICC ESR 1545.
  - b. Rebar Doweling into Concrete
    - 1) Adhesive anchors for cracked and uncracked concrete use:
      - a) Hilti HIT-HY 200 Safe Set System with Hilti Hollow Drill Bit System with continuously deformed rebar per ICC ESR-3187.
      - b) Hilti HIT-RE 500-SD Epoxy Adhesive Anchoring System with continuously deformed rebar per ICC ESR-2322.
  - c. Anchorage to Solid Grouted Masonry
    - 1) Adhesive Anchors:
      - a) Hilti HIT-HY 70 Masonry Adhesive Anchoring System (ICC pending).
      - b) Steel anchor element shall be Hilti HAS-E Continuously Threaded Rod or continuously deformed steel rebar.
    - 2) Mechanical Anchors:
      - a) Hilti KWIK HUS-EZ Screw Anchor per ICC ESR-3056.
      - b) Hilti KWIK BOLT-3 Expansion Anchors per ICC ESR-1385.
  - d. Anchorage to Hollow/Multi-Wythe Masonry
    - 1) Adhesive Anchors:
      - a) Hilti HIT-HY 70 Masonry Adhesive Anchoring System per ICC ESR-3342.

- b) Steel anchor element shall be Hilti HAS-E Continuously Threaded Rod or continuously deformed steel rebar.
  - c) The appropriate size screen tube shall be used per adhesive Manufacturer's recommendation.
- 2. Anchor capacity used in design shall be based on the technical data published by Hilti or such other method as approved by the Architect. Substitution requests for alternate products must be approved in writing by the Architect. Contractor shall provide calculations demonstrating that the substituted product is capable of achieving the performance values of the specified product. Substitutions will be evaluated by their having an ICC ESR showing compliance with the relevant building code for seismic uses, load resistance, installation category, and availability of comprehensive installation instructions. Adhesive anchor evaluation will also consider creep, in-service temperature and installation temperature.
- 3. Install anchors per the manufacturer instructions, as included in the anchor packaging.
- 4. Overhead adhesive anchors must be installed using the Hilti Profi System.
- 5. The Contractor shall arrange an anchor manufacturer's representative to provide onsite installation training for all of their anchoring products specified. The Architect must receive documented confirmation that all of the Contractor's personnel who install anchors are trained prior to the commencement of installing anchors.
- 6. Anchor capacity is dependant upon spacing between adjacent anchors and proximity of anchors to edge of concrete. Install anchors in accordance with spacing and edge clearances indicated on the drawings.
- 7. Existing reinforcing bars in the concrete structure may conflict with specific anchor locations. Unless noted on the drawings that the bars can be cut, the Contractor shall review the existing structural drawings (if available) and shall undertake to locate the position of the reinforcing bars at the locations of the concrete anchors, by Hilti Ferrosan, GPR, X-Ray, chipping or other means.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as concrete inserts, sleeves, anchor bolts and miscellaneous items having integral anchors, which are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.

### **3.2 INSTALLATION**

- A. General
  - 1. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction; including, threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws and other connectors as required.

2. Cutting, Fitting and Placement: Perform cutting, drilling and fitting required for installation of miscellaneous metal fabrications. Set work accurately in location, alignment and elevation, plus, level, true and free of rack, measured from established lines and levels. Provide temporary bracing or anchors in formwork for items which are to be built into concrete, masonry or similar construction.
  3. Fit exposed connections accurately together to form tight hairline joints. Weld connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind exposed joints smooth and touch-up shop paint coat. Do not weld, cut or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication, and are intended for bolted or screwed field connections.
  4. Field Welding: Comply with AWS Code for procedures of manual shielded metal-arc welding, appearance and quality of welds made, and methods used in correcting welding work.
- B. Setting Loose Lintels and Plates:
1. Clean concrete and masonry bearing surfaces of any bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of bearing plates.
  2. Set Loose Lintels, leveling and bearing plates on wedges, or other adjustable devices. After the bearing members have been positioned and plumbed, tighten the anchor bolts. Do not remove wedges or shims, but if protruding, cut-off flush with the edge of the bearing plate before packing with grout. Use metallic non-shrink grout in concealed locations where not exposed to moisture; use non-metallic non-shrink grout in exposed locations, unless otherwise indicated.
  3. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

### **3.3 ADJUST AND CLEAN**

- A. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting. Apply by brush or spray to provide a minimum dry film thickness of 2.8 mils.
- B. For galvanize surfaces: Clean field welds, bolted connections and abraded areas and apply galvanizing repair paint.

**END OF SECTION 05500**

## **SECTION 06100 - CARPENTRY**

### **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. Type of work in this section includes rough carpentry for wood nailers and blocking.

#### **1.3 SUBMITTALS**

- A. Material Certificates: Where dimensional lumber is provided to comply with minimum allowable unit stresses, submit listing of species and grade selected for each use, and submit evidence of compliance with specified requirements. Compliance may be in form of a signed copy of applicable portion of lumber producer's grading rules showing design values for selected species and grade. Design values shall be as approved by the Board of Review of American Lumber Standards Committee.
- B. Wood Treatment Data: Submit chemical treatment manufacturer's instructions for handling, storing, installation and finishing of treated material.
- C. Fire-Retardant Treatment: Include certification by treating plant that treated material complies with specified standard and other requirements.

#### **1.4 PRODUCT HANDLING**

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.
- B. Do not deliver finish carpentry materials, until painting, wet work, grinding and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas. If, due to unforeseen circumstances, finish carpentry materials must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

#### **1.5 PROJECT CONDITIONS**

- A. Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow attachment of other work.
- B. Maintain temperature and humidity in installation areas as required to maintain moisture content of installed finish carpentry within a 1.0 percent tolerance of optimum moisture content, from date of installation through remainder of construction period. The fabricator of woodwork shall determine optimum moisture content and required temperature and humidity conditions.

## **PART 2 - PRODUCTS**

### **2.1 LUMBER, GENERAL**

- A. Lumber Standards: Manufacture lumber to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- B. Inspection Agencies: Inspection agencies and the abbreviations used to reference with lumber grades and species include the following:  
  
WWPA - Western Wood Products Association.
- C. Factory-mark each piece of lumber with type, grade, mill and grading agency, except omit marking from surfaces to be exposed with transparent finish or without finish.
- D. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
- E. Provide dressed lumber, S4S, unless otherwise indicated.
- F. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing.

### **2.2 MISCELLANEOUS LUMBER**

- A. Provide wood for support or attachment of other work including nailers, blocking, and similar members. Provide lumber of sizes indicated or required, worked into shapes shown, and as follows:
  - 1. Moisture content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.
  - 2. Grade: Construction Grade light framing size lumber of any species or board size lumber as required. Provide construction grade boards or No. 2 Boards.

### **2.3 MISCELLANEOUS MATERIALS**

- A. Fasteners and Anchorages: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.
- B. Where rough carpentry work is exposed to weather, in area of high relative humidity, provide fasteners and anchorages with a hot-dip zinc coating (ASTM A 153).
- C. Building Paper: ASTM D 226, Type I; asphalt saturated felt, non-perforated, 15-lb. type.

## **2.4 WOOD TREATMENT BY PRESSURE PROCESS**

- A. Fire-Retardant Treatment: Where fire-retardant treated wood ("FRT") is indicated or required, pressure impregnate lumber and plywood with fire-retardant chemicals to comply with AWPA C20 and C27, respectively, identify "FRT" lumber with appropriate classification marking of Underwriters Laboratories, Inc., U.S. Testing, Timber Products Inspection or other testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Fire treated wood shall have a flame spread of 25 or less and shall be dried to 19% moisture content for lumber and 15% for plywood. Exposed wood or wood subject to high humidity conditions shall be identified that the moisture content shall not exceed 28% when tested at 92% relative humidity in accordance with ASTM D3201.
  - 2. Treatment products: The following products, provided they comply with requirements of the contract documents will be among those considered acceptable:
    - a. "Dricon"; Hickson Corporation.
    - b. "Flame Proof LHC"; Osmose Wood Preserving, Inc.
    - c. "Pyro-Guard"; Hoover Treated Wood Products, Inc.
    - d. Or approved equal.
  - 3. Treat members shown on drawings and/or as required to meet the all State and Local Codes and Regulations.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION, GENERAL**

- A. Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.
- B. Set carpentry work to required levels and lines, with members plumb and true to line and cut and fitted.
- C. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards.
- D. Countersink nail heads on exposed carpentry work and fill holes.
- E. Use common wire nails, except as otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

### **3.2 WOOD NAILERS AND BLOCKING**

- A. Provide wherever shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.
- B. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated.



- C. Height of nailers shall be matched to that of the insulation being used. Nailers shall be firmly anchored to the deck to resist a force of seventy-five pounds per lineal foot. The type of anchors shall be as recommended by the roofing manufacturer and shall be secured at intervals required to ascertain a resistance force of seventy-five pounds per lineal foot.

**END OF SECTION 06100**

## SECTION 06400 - ARCHITECTURAL WOODWORK

### 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 DESCRIPTION OF WORK

- A. Extent of type of architectural woodwork is indicated on the drawings and in schedules.
- B. Type of architectural woodwork includes standing and running trim.

#### 1.3 QUALITY ASSURANCE

- A. AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute (AWI), except as otherwise indicated.
- B. Special Project Warranty: Provide Manufacturer's / Installer's / Contractor's warranties against warping, and support system failure and deterioration of finish.
  - 1. Warranty period shall be for **one (1) year** which shall start from approved date of substantial completion of work.

#### 1.4 REFERENCES

- A. AWI Quality Marking: Mark each assembled unit of architectural woodwork with manufacturer's identification and grade mark evidencing compliance with indicated AWI quality grade. Locate grade mark on surfaces which will not be exposed after installation. For other items requiring field assembly, a certification of compliance may be substituted for marking of individual pieces.

#### 1.5 SUBMITTALS

- A. Product Data: Submit manufacturer's product data for each product and process specified as work of this section and incorporated into items of architectural woodwork during fabrication, finishing, and installation.
- B. Quality Certification: Submit woodwork Manufacturer's (Fabricator's) certification, stating that fabricated woodwork complies with quality grades and other requirements indicated.
- C. Shop Drawings: Submit shop drawings showing location of each item, dimensioned plans and elevations, large scale details, attachment devices and other components.
- D. Samples: Submit the following samples:
  - 1. Lumber with or for transparent finish; set of 3 pieces 6" x 3/4" x 18", for each species and cut, finished on one side and one edge.

## **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Protect woodwork during transit, delivery, storage and handling to prevent damage, soiling and deterioration.
- B. Do not deliver woodwork, until painting, wet work, grinding and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas. If, due to unforeseen circumstances, woodwork must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

## **1.7 PROJECT CONDITIONS**

- A. Conditioning: Do not install woodwork until required temperature and relative humidity have been stabilized and will be maintained in installation areas.
- B. Maintain temperature and humidity in installation area, as required, to maintain moisture content of installed woodwork within a 1.0% tolerance of optimum moisture content, from date of installation through remainder of construction period. Require Woodwork Manufacturer to establish optimum moisture content and required temperature and humidity conditions.

## **1.8 WARRANTY**

- A. Special Project Warranty: Provide Manufacturer's / Installer's / Contractor's warranties against delamination, warping, hardware and support system failure and deterioration of finish.
  - 1. Warranty period shall be for **one (1) year** which shall start from approved date of substantial completion of work.

## **PART 2 - PRODUCTS**

### **2.1 BASIC MATERIALS AND FABRICATION METHODS**

- A. General: Except as otherwise indicated, comply with the following requirements for architectural woodwork not specifically indicated as prefabricated or prefinished standard products.
- B. Wood Moisture Content: Provide kiln-dried lumber with an average moisture content range of 9% to 13% for exterior work and 6% to 11% for interior work. Maintain temperature and relative humidity during fabrication, storage and finishing operations so that moisture content values for woodwork at time of installation do not exceed the following:
  - 1. Interior Wood finish: 5% - 10%.
- C. Interior Wood for Opaque Finish:
  - 1. Solid Wood: Any closed grain hardwood complying with requirements for specified woodwork grade.
  - 2. Solid Wood: Clear - Pine

## **2.2 FABRICATION**

- A. Quality Standards: For following type of architectural woodwork comply with indicated standards as applicable.
  - 1. Standing and Running Trim: AWI Section 300
- B. Design and Construction Features: Comply with details shown for profile and construction of architectural woodwork; and, where not otherwise shown, comply with applicable Quality Standards, with alternate details as approved by Architect.
- C. Measurements: Before proceeding with fabrication of woodwork required to be fitted to other construction, obtain field measurements and verify dimensions and shop drawing details as required for accurate fit.
  - 1. Where sequence of measuring substrates before fabrication would delay the project, proceed with fabrication (without field measurements) and provide ample borders and edges to allow for subsequent scribing and trimming of woodwork for accurate fit.

## **2.3 INTERIOR ARCHITECTURAL WOODWORK**

- A. Quality Standard: Comply with AWI Section 300.
- B. Standing and Running Trim:
  - 1. Grade: Premium
  - 2. Fabricate standing and running trim to dimensions, profiles and details shown. Rout or groove reverse side (backed-out) of trim members to be applied to flat surface, except for members with ends exposed in finish work.
  - 3. Plant assemble miters unless otherwise indicated.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Condition woodwork to average prevailing humidity conditions in installation areas prior to installing.
- B. Pre-Installation Meeting: Meet at project site prior to delivery of architectural woodwork and review coordination and environmental controls required for proper installation and ambient conditioning in areas to receive work. Include in meeting the Contractor; Architect and other Owner Representatives (if any); installers of architectural woodwork, wet work such as plastering, other finishes, painting, mechanical work and electrical work; and firms or persons responsible for continued operation (whether temporary or permanent) of HVAC system as required to maintain temperature and humidity conditions. Proceed with woodwork installation only when everyone concerned agrees that required ambient conditions can be maintained.

- C. Deliver anchoring devices to be built into substrates, well in advance of time substrates are to be built.
- D. Prior to installation of architectural woodwork, examine shop fabricated work for completion, and complete work as required, including back priming and removal of packing.

### **3.2 INSTALLATION**

- A. Install woodwork plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'-0" for plumb and level (including tops); and with no variations in flushness of adjoining surfaces.
- B. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.
- C. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns, miter at corners and comply with referenced Quality Standards for joinery.
- D. Anchor woodwork to anchors or blocking built-in or directly attached to substrates. Secure to blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Except where prefinished matching fasteners heads are required, use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork, and matching final finish where transparent finish is indicated.

### **3.3 ADJUSTMENT, CLEANING, FINISHING, AND PROTECTION**

- A. Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair replace woodwork. Adjust joinery for uniform appearance.
- B. Clean woodwork on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.
- C. Complete the finishing work specified as work of this section, to whatever extent not completed at shop or prior to installation of woodwork.
- D. Refer to the Division-9 sections for final finishing of installed architectural woodwork.
- E. Provide final protection and maintain conditions, in a manner acceptable to Fabricator and Installer, which ensures architectural woodwork being without damage or deterioration at time of substantial completion.

**END OF SECTION 06400**

## SECTION 06650 - SOLID POLYMER FABRICATIONS

### 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. Section Includes plastic window stools.

#### 1.3 SUBMITTALS

- A. Product Data: Written technical information for unit specified. Indicate product description, fabrication information and compliance with specified performance requirements.
- B. Shop Drawings:
  - 1. Submit rough-in drawings. Include the following details and all other information necessary to demonstrate compliance with contract documents:
    - a. Dimensions.
    - b. Required clearances.
    - c. Methods of assembling components.
    - d. Anchorages.
    - e. Coordination requirements with adjacent work.
- C. Samples: Submit minimum 2 inch by 2 inch samples. Indicate full range of colors and pattern variation. Approved samples will be retained as a standard for work.
- D. Certificates: Submit certification that work complies with requirements of contract documents.
- E. Manufacturer's Instructions: Submit for each product specified in this section.
  - 1. Include installation instructions and instructions for examination, preparation, and protection of adjacent work.
- F. Maintenance Data: Submit manufacturer's care and maintenance data, including care, repair and cleaning instructions and maintenance video.
  - 1. **Provide maintenance kit for indicated finishes. Include in project close-out documents.**

#### 1.4 DELIVERY, STORAGE AND HANDLING:

- A. Deliver no components to project site until areas are ready for installation. Store indoors.
- B. Handle materials to prevent damage to finished surfaces. Provide protective coverings to prevent physical damage or staining following installation for duration of project.

**1.5 QUALITY ASSURANCE:**

- A. Allowable Tolerances: Variation in component size: ±1/8 inch.

**1.6 WARRANTY:**

- A. Provide manufacturer's warranty against defects in materials, fabrication and installation, excluding damages caused by physical or chemical abuse or excessive heat. Warranty shall provide for replacement or repair of material and labor for a period of **ten (10) years**, beginning at Date of Substantial Completion.
  - 1. For fabrications with installed warranty coverage, identify by affixing manufacturer's fabrication/installation source plate.

**PART 2 - PRODUCTS**

**2.1 SOLID POLYMER FABRICATIONS:**

- A. Basis of Design: Corian Surfaces as manufactured by Du Pont De Nemours & Co., Inc.; or approved equal.
- B. Subject to compliance with indicated requirements manufacturers offering products which may be incorporated in the work include the following:
  - 1. Meganite Inc.: Manufacturer’s Rep: Richelieu Hardware,
  - 2. LG Solid Surfaces,
  - 3. Wilsonart: Manufacturer’s Rep: Fessenden Hall Inc.,
  - 4. Avonite Surfaces,
  - 5. Or approved equal.
- C. Material: Cast, filled, acrylic; not coated, laminated or of composite construction, meeting ANSI Z124 1980, Type Six, and FS WW-P-541E/GEN dated August 1, 1980.

**2.2 PERFORMANCE CHARACTERISTICS:**

<u>PROPERTY</u>	<u>REQUIREMENT</u> (min/max)	<u>TEST PROCEDURE</u>
Tensile Strength	5000 psi min	ASTM D638
Tensile Modulus	1.0 x 10 <sup>6</sup> psi min	ASTM D638
Flexural Strength	7000 psi min	ASTM D790
Flexural Modulus	1.0 x 10 <sup>6</sup>	ASTM D790
Elongation	0.3% min.	ASTM D638
Strain at Break	0.8% min.	ASTM D638
Hardness	90-Rockwell "M" scale 52-Barcol Impressor min.	ASTM D758

Thermal Expansion	3.5 x 10 <sup>-6</sup> in/in/deg C max 1.95 x 10 <sup>-6</sup> in/in/deg F max	ASTM D696
Color Stability	No change, min. 100 hours	NEMA LD3-3.10
Wear and Cleanability	Passes	ANSI Z124.3
Abrasion Resistance	No loss of pattern Weight loss (1000 cycles)=0.9 g. max.	NEMA LD3-3.01 ANSI Z124.3
Boiling water Surface Resistance	No Change	NEMA LD3-3.05
High Temperature Resistance	No Change	NEMA LD3-3.06
Conductive Heat Resistance	No Change	NEMA LD3-3.08
Impact Resistance Notched Izod	0.24 ft.-lbs./in. of notch min.	ASTM D256, Method A
Gardner	9.0 ft-lbs min.	ASTM D3029
Ball drop 1/4" sheet	36" min. with 1/2 lb ball, no failure	NEMA LD3-303
1/2" sheet	140" min. with 1/2 lb ball, no failure	
3/4" sheet	200" min. with 1/2 lb ball, no failure	
Stain Resistance	Passes	ANSI Z124.3
Weatherability	No change, min. 1000 hours	ASTM D1499-84
Fungi and Bacteria	No Attack	ASTM G21, ASTM G22
Specific Gravity	1.6 min.	



Water Absorption Weight (% max.)	<b>24 hrs.</b>	<b>Long Term</b>	ASTM D570
	0.05 (1/4") max.	0.50 (1/4") max.	
	0.10 (3/4") max.	0.90 (3/4") max.	

Flammability ASTM E84

	<b>Solid Colors</b>		
	<b>1/4"</b>	<b>1/2"</b>	<b>3/4"</b>
Flame spread	25 max	25 max	25 max
Smoke Developed	30 max	30 max	30 max
Class	1	1	1

**Particulate Patterns**

	<b>1/4"</b>	<b>1/2"</b>	<b>3/4"</b>
Flame spread	25 max	25 max	25 max
Smoke Developed	30 max	30 max	30 max
Class	1	1	1

Pittsburgh Protocol Toxicity (as used by NY state)	solids-80 grams min. particulate patterns-65 grams min.	"LC50" Test
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**2.3 ACCESSORY PRODUCTS**

- A. Joint Adhesive: Manufacturer's standard two-part adhesive kit to create inconspicuous, non-porous joints by chemical bond.
- B. Panel Adhesive: Manufacturer's standard neoprene-based panel adhesive complying with ANSI A136.1-1967, UL listed.
- C. Sealant: Manufacturer's standard mildew-resistant, FDA, UL listed silicone sealant in colors matching components.

**2.4 FABRICATION:**

- A. Factory fabricate components to greatest extent practical to sizes and shapes indicated, in accordance with approved shop drawings and manufacturer's printed Instructions and technical bulletins.

- B. Form joints between components using manufacturer's standard joint adhesive; without conspicuous joints. Reinforce with strip of solid polymer material, 2" wide.
- C. Rout and finish component edges with clean, sharp returns. Rout cutouts, radii and contours to template. Smooth edges. Repair or reject defective and inaccurate work.
- D. Window Stools: 1/2 inch thick solid polymer material, adhesively joined with inconspicuous seams, having round edge, 1" thick minimum and with 1" minimum projection from face of wall, unless otherwise shown on the Drawings.
  - 1. Provide surfaces with a uniform finish, Matte, Gloss range of 5-20. Color to be selected from manufacturer's **Color Group - 1 - 5**.

## **PART 3 - EXECUTION**

### **3.1 GENERAL REQUIREMENTS**

- A. Prior to final approval of shop drawings, erect at project site one full size mock-up of each component required, for Architect's review.
- B. Should mock-up not be approved, re-fabricate and reinstall until approval is secured. Remove rejected units from project site.
- C. Approved mock-ups may remain as part of finished work.

### **3.2 INSTALLATION**

- A. Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved shop drawings and product data.
- B. Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished work. Reinforce joints as required.
- C. Perform installation in accordance with manufacturer's instructions, except where more stringent requirements are shown or specified, and except where project conditions require extra precautions or provisions to ensure satisfactory performance of the work.

### **3.3 CLEANING**

- A. Clean shop finished surfaces, touch-up as required, and remove or refinish damaged or soiled areas, as acceptable to Architect.

### **3.4 PROTECTION**

- A. Contractor to take all precautions as recommended by the manufacturer for protection of installed window stools and other solid plastic products from damage by work of other trades.

**END OF SECTION 06650**

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## **SECTION 07070 - SELECTIVE ROOF DEMOLITION**

### **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 GENERAL**

- A. The Contractor will be responsible for the removal and disposal of all materials generated from work of this contract.
- B. Provide all labor, material equipment, and tools as required to prepare the existing roof section for selective demolition work and installation of new RTU curbs, vents, etc. as specified in this Section and other Division 7 Sections.
- C. Provide for the proper disposal of all existing materials designated to be removed. Use approved trash receptacles in areas designated by the Owner's Representative.
- D. Coordinate work, in such a manner as to keep the new insulation and roofing materials, building, and building interior absolutely clean, dry and watertight.
- E. Contractor is to maintain the building roof in a watertight condition at the completion of each day's work and ensure that no water enters into the building. Roof areas are to be "watertight at night" at all times during the job. Failure to do so is grounds for dismissal. Contractor will reimburse Owner the cost to repair interior damages resulting from roof leaks during construction.
- F. Contractor is to maintain the building and site in a neat and orderly fashion at all times. Completely remove all scrap and debris on a daily basis. Failure to do so is grounds for dismissal.

#### **1.3 SUBMITTALS**

- A. Proposed Selective Demolition Activities:
  - 1. Submit proposed schedule of demolition activities. Indicate:
    - a. Starting and ending dates for each activity as appropriate.
    - b. Interruption and restoration of utility services.
  - 2. Submit proposed methods of operations.
- B. Project Record Documents:
  - 1. Indicate unanticipated structural, electrical, or mechanical conditions.
- C. Photographs: Before starting work, file with the Architect photographs documenting existing conditions that later could be mistaken for damage caused by demolition operations.

## **1.4 PROJECT CONDITIONS**

- A. Occupancy:
  - 1. The Owner will continue to occupy portions of the existing building.
- B. Unforeseen Conditions:
  - 1. Should unforeseen conditions be encountered that affect design or function of project, investigate fully and submit an accurate, detailed, written report to the Owner / Architect. While awaiting the Owner / Architect's response, reschedule operations if necessary to avoid delay of overall project.

## **PART 2**

### **2.1 EQUIPMENT**

- A. Demolition equipment and materials are provided by the Contractor.

## **PART 3**

### **3.1 EXECUTION**

- A. Contractor shall take all necessary precautions during roof preparation work to protect the building exterior, building interior, and adjacent surfaces from being soiled or damaged.
- B. When weather threatens, cease work under this Section and return roof to a watertight condition.
- C. Contractor shall restore to original condition any damages caused during work on this project. Damages found on this project prior to start of work must be documented by contractor and brought to Owner's attention prior to start of work.
- D. All roof drains are assumed to be in good operating condition. Contractor is to verify good operating condition of roof drains prior to start of work on this project. Damaged, clogged or partially clogged drains must be documented by Contractor and brought to Owner's attention prior to start of work on this project.
- E. Return all roof drains to operating condition at the end of each working day.
- F. Immediately prior to insulation attachment, sweep the deck surface. Do not allow foreign objects to become trapped under the insulation board by being left on the deck surface.
- G. If, during observation of the prepared surface, the Architect or the manufacturer's representative determined the deck surface was not prepared properly, Contractor shall re-prepare the surface to the satisfaction of the Architect or manufacturer's representative.
- H. Properly dispose of all debris from roof preparation on a daily basis.

- I. Do not store debris on roof. Contractor shall take care not to over stress roof deck.
- J. Provide closed trash chutes or other approved means for removal of debris.
- K. Construct all necessary barricades, fencing, warning sign, scaffolding, etc., required to protect personnel and property.
- L. Prior to the completion of the work, remove from the job site all tools, equipment, debris and waste.

**END OF SECTION 07070**

## SECTION 07200 - BUILDING INSULATION

### 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 DESCRIPTION OF WORK

- A. Work included in this Contract: Contractor shall include all labor, materials, services, installation, equipment, etc., necessary to complete all building insulation (except roof insulation) to achieve complete and tight building thermal barrier to prevent the passage of exterior air into conditioned spaces and prohibit the formation of condensation.
  - 1. Provide indicated types of insulation as shown on drawings, as specified herein, and/or as required by all job conditions and building assemblies, whether clearly shown or not to achieve included work.
  - 2. Insulation types include but are not limited to the following:
    - a. Blanket type building insulation with foil facing for concealed application and unfaced for exposed application,
    - b. Rigid board type cavity wall insulation,
  - 3. Related Work:
    - a. Section 07900 - Joint Sealer Assemblies.
    - b. Section 09250 - Gypsum Drywall.
    - c. Section 09900 - Painting.

#### 1.3 QUALITY ASSURANCE

- A. Thermal Conductivity: Thicknesses shown are for thermal conductivity (k-value at 75°F) specified for each material. Provide adjusted thicknesses as directed for equivalent use of material having a different thermal conductivity. Where insulation is identified by "R" value, provide appropriate thicknesses.
- B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
  - 1. Surface-Burning Characteristics: ASTM E 84.
  - 2. Fire-Resistance Ratings: ASTM E 119.
  - 3. Combustion Characteristics: ASTM E 136.
- C. Fire and Insurance Ratings: Comply with fire-resistance, flammability and insurance ratings indicated, and comply with governing regulations as interpreted by authorities.

## 1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature and installation instructions for each type of insulation required. Include data substantiating that materials comply with specified requirements.
- B. Samples: Submit triplicate samples of the following listed items, in accordance with Contract Documents. Obtain Architect's approval before proceeding with ordering or fabrication of items of this section:
  - 1. Each type of insulation specified - 12 inches square.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. General Protection and Handling: Protection from Deterioration: Do not allow insulation materials to become wet, soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage and protection during installation.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Extruded-Polystyrene Board Insulation:
    - a. DiversiFoam Products.
    - b. Dow Chemical Company.
    - c. Owens Corning.
    - d. Tenneco Building Products.
    - e. Or approved equal.
  - 2. Glass-Fiber Insulation:
    - a. CertainTeed Corporation.
    - b. Johns Manville.
    - c. Owens Corning.
    - d. Guardian Building Products, Inc.
    - e. Knauf Insulation.
    - f. Or approved equal.
- B. Mineral/Glass Fiber Blanket/Batt Insulation
  - 1. Inorganic fibers formed into flexible resilient blankets or semi-rigid resilient sheets:
    - a. Reinforced-Foil-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type III (reflective faced), Class A (faced surface with a flame-spread index of 25 or less); Category 1 (membrane is a vapor barrier), faced with foil scrim, foil-scrim kraft, or foil-scrim polyethylene.

## C. Rigid Insulation

1. Rigid, moisture resistant, closed-cell extruded polystyrene insulation board; ASTM C578, Type IV, 25 psi compressive strength; 1.1 perm-inch maximum vapor transmission; 0.1% maximum water absorption; manufacturer's standard lengths and widths. Provide insulation complying with a flame spread rating of 10 and smoke developed of 160, when tested in accordance with ASTM E84.
  - a. Basis of Design: Provide "Cavitymate Ultra", by Dow Chemical Co., U.S.A.; or approved equal.
    - 1) Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      - a) DiversiFoam Products.
      - b) Owens Corning.
      - c) Tenneco Building Products.
      - d) Or approved equal.
  - b. R value of 5.6 per inch; ASTM C518.
  - c. Thickness: 1-3/4", unless indicated otherwise.
2. Refer to the drawings and Section 09900 for painting of rigid insulation which is installed in the abandoned unit ventilator wall opening.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Comply with manufacturer's instructions for particular conditions of installation in each case. If printed instructions are not available or do not apply to project conditions, consult manufacturer's technical representative for specific recommendations before proceeding with work.
- B. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
  1. Apply a single layer of insulation of required thickness, unless otherwise shown or required to make up total thickness.
  2. Provide complete and tight building thermal barrier, to prevent the passage of exterior air into conditioned spaces and prohibit the formation of condensation.
  3. Provide indicated types of insulation as shown on drawings, as specified herein, and/or as required by all job conditions, building assemblies, and whether clearly shown or not.
  4. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
    - a. Glass-Fiber Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft. (40 kg/cu. m).
  5. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.



C. Batt Insulation

1. General:

- a. Set vapor barrier faced units with vapor barrier to warm side of construction.
- b. Tape joints and ruptures in vapor barriers, and seal each continuous area of insulation to surrounding construction to ensure vapor-tight installation.
- c. Insert and secure insulation to fill voids to create barrier to prevent the pass of air and moisture.

2. Exterior Wall Stud Framing, (Exposed Application):

- a. Install properly size unfaced fiberglass insulation tight to stud construction. Install vapor retarder and seal all joints closed to prevent passage of vapor.

D. Rigid Insulation

1. On units of plastic insulation, install small pads of mortar or mastic spaced approximately 1'-0" on center both ways on inside face, as recommended by manufacturer. Press courses of insulation between wall ties and other confining obstructions in the cavity, with edges butted tightly both ways. Press units firmly against inside wythe of masonry or other construction as shown.

- E. All installations of insulation and work of this section shall meet approval of Architect and all code authorities having jurisdiction at no additional cost to the Owner.

**END OF SECTION 07200**

## **SECTION 07500 - ROOFING, GENERAL**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION OF WORK**

- A. The requirements of this section apply to the work specified in the following sections:
  - 1. Section 07070 - Selective Roof Demolition,
  - 2. Section 07530 - Repairs to Single-Ply Roofing Membrane System,
  - 3. Section 07600 - Flashing and Sheet Metal,
- B. This section includes alterations and tie-ins to existing roofing systems and as shown on the drawings.

#### **1.2 QUALITY ASSURANCE**

- A. Roofing and associated work, including work of all sections listed in 1.1 above, must be included in a single subcontract, so that there will be undivided responsibility for the specified performance of all component parts.
- B. Installer Prequalification: Installer must be a recognized Roofing Contractor, skilled and experienced in the types of work required, and equipped to perform workmanship in accordance with recognized standards.
  - 1. Minimum Experience: Not less than a recommended five (5) years experience in applications for indicated roofing systems, and in roofing projects of magnitude equivalent to the required work.
  - 2. Maintenance Proximity: Recommended location of not more than two hours normal travel time from Installer's maintenance plant to project site.
    - a. Optional Proximity: At Contractor's option, and with Owner's prior acceptance of Installer's certification that work of the Maintenance Agreement will be performed by a designated roofing contractor whose plant is located not more than two hours normal travel time from project site, the above requirements will be waived.
- C. Product Bid: The product bid must have past performance of installation on a roof in the state where project is located for a recommended minimum of five (5) years, under the same name of manufacturer as bid.
- D. Alterations to existing roofs: Contractor shall make necessary tie ins and alterations to existing roofs in accordance with details indicated and "Basis of Design" product requirements so as to maintain original warranty on existing roofs and/or achieve complete weather tight conditions.

#### **1.3 SUBMITTALS**

- A. Submit certification that the roof materials furnished for roof alterations and tie-ins is Tested and Approved by Factory Mutual as a Class 1-SH roof system with 1-90 Wind Uplift

Requirements, or Listed by Underwriters Laboratories or Warnock Hersey for external fire tests of ASTM E - 108 Class A.

- B. Product Data for each type of product specified include manufacturer's technical product data, installation instructions, and recommendations for each type of roofing product required. Include data substantiating that materials comply with specified requirements.
- C. Shop Drawings: Submit roofing membrane layout drawings showing the outline of existing roof and locations of flashings and tie-ins, specific roofing details illustrating relationships with adjacent construction, and flashing details at indicated tie-in conditions.
  - 1. Submit shop drawings of manufactured and/or fabricated sheetmetal work.
  - 2. Contract Drawing Detail Approval: If the roofing manufacturer takes exception to the contract document details, the manufacturer shall provide the roofing contractor with acceptable details to be submitted to the Architect for approval. This Project must receive Architect's approval through this process prior to shipment of materials to the project site. All roofing work required by the roofing system manufacturer shall be included in the contract at no additional cost to the Owner.
- D. Samples: Samples of each material specified, properly labeled.
  - 1. Roof membrane: For project records, submit 8- by 10-inch samples of membrane cut from rolls of each type of material used on the project.
  - 2. Flashing membrane: Submit 12-inch-square samples of sheet material to be used for base flashings.
  - 3. Fasteners: Submit (2) of each type.
  - 4. Adhesives: Submit samples for each type to be used.

#### **1.4 JOB CONDITIONS**

- A. Roofing Conference: Prior to the installation of the roofing and associated work, meet at the project site with the Installer, the Installers of each component of associated work, and the Architect and other representatives directly concerned with performance of the work, including, where applicable, product manufacturers and the Owner. Record (by Contractor) the discussions of the conference and the decisions and agreements, or disagreements reached, and furnish a copy of the record to each party attending. Review foreseeable methods and procedures related to the roofing work including, but not necessarily limited to, the following:
  - 1. Review Project requirements (drawings, specifications and other contract documents).
  - 2. Review status of existing conditions and substrate (by the Roofing Installer), including extent of moisture penetration in existing work, drying and similar considerations.
  - 3. Review availability of materials, tradesmen, equipment and facilities needed to make progress and avoid delays.

4. Review weather and forecasted weather conditions, and procedures for coping with unfavorable conditions.
  5. Review regulations concerning Code compliance, environmental protection, health, safety, fire and similar considerations.
  6. Establish units of work, including preparation, such that each unit may be completed prior to end of each day's work.
- B. Weather Condition Limitations:
1. During periods of inclement weather, Contractor shall use wet power vacuums, on the day following each rain, to remove standing water so as not to delay his operations.
  2. Proceed with roofing and associated work only when weather conditions will permit unrestricted use of materials and quality control of the work being installed, complying with the requirements and the recommendations of the roofing materials manufacturers.
  3. Proceed only when the Contractor is willing to guarantee the work as required and without additional reservations and restrictions.
  4. Protect existing work and property from damage during the course of the work. Be prepared for all weather and other contingencies as prudence may dictate. Maintain on the site at all times sufficient and proper materials for temporary roofing and other protection when weather conditions prevent continuance of work and do not permit completion of each unit of work prior to the end of each working day. Temporary protection and roofing work must be provided at no additional cost to the Owner.
  5. Remove and discard materials which have been used for temporary roofs, protection, water seals, and related work. Do not incorporate used materials into the work.
- C. Storage of Materials and Property: Do not overstress roof decks and supporting structures. Avoid placing loads at midspans of framing. All superimposed loads shall be well distributed. Do not store more material on roofs than can be installed in one and one-half working days. Store materials, except membrane, in dry area and protect from water and direct sunlight. Damaged materials shall be replaced at Contractor's expense. Protect adjacent work from damage due to roofing operations and related work. Provide temporary protection against walls adjacent to roofing work; remove protection upon completion.

## **PART 2 - PRODUCTS**

### **2.1 GENERAL ROOFING MATERIALS**

- A. Refer to other sections for new roofing work and all requirements of roofing materials, products and systems.

## **B. Alterations and Tie-ins to Existing Roofs**

1. Provide Roofing materials, flashings, primers, adhesives and all other required accessories to meet or exceed the following "Basis of Design" minimum performance requirements. All roofing materials shall be UL Class A, FM Class 1-SH listed and shall comply with the International Building Code, and CGSB 37-GP-56M standards.
2. Wood Cants and Curbs: Lumber; #2 grade free from warping and visible decay; fire retardant treated, and marked.
3. Mechanical Fasteners: Manufacturer's standard FM approved fasteners for this type of application.
4. Other Materials and Accessories: Manufacturer's standard and/or approved products for indicated applications.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION, GENERAL**

- A. Contractor shall prepare a plan and submit it to the Architect for which identifies how the roofing repairs and all associated work will be performed so as to prevent foot traffic on the newly installed roofing system.
- B. Coordinate the installation of roofing materials and associated work so as to provide a complete system complying with the combined recommendations of manufacturers and installers involved in the work.
- C. Protect other work from spillage of roofing materials, and prevent materials from entering and clogging drains and conductors. Replace or restore other work which is soiled or otherwise damaged by the performance of the roofing and associated work.

### **3.2 PERFORMANCE REQUIREMENTS**

- A. Initial Weather Resistance: It is required that the roofing and associated work be durable in normal weather exposure and not leak water during rainstorms. After completion of the roofing and associated work, and either during or immediately after a rainstorm, (and just before final acceptance of the work) the Installer shall meet with the Contractor at the project and inspect the building for evidence of leaks in the roofing and associated work. Prepare a written report without delay (by Contractor) covering the inspection, and submit to Owner (with copy to Architect). Should no rain occur between the time the roof is completed and when all punch list items have been corrected, this requirement shall be waived.
- B. Repair or replace roofing and associated work as required to eliminate leaks or other inability of roofing to initially withstand normal weather exposure.
  1. Abnormal weather exposure is recognized to include hailstorms, lightning strikes, hurricane and tornadic winds, and other unusual phenomena of the weather as frequently covered by building insurance.

**C. Alterations and Tie-ins to Existing Roofs**

1. Examine substrate surfaces to receive roofing system and associated work and conditions under which roofing will be installed. Do not proceed with roofing until unsatisfactory conditions have been corrected in a manner acceptable to Installer.
2. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch out of plane.
3. Cooperate with inspection and test agencies engaged or required to perform services in connection with roofing system installation.
4. Insurance/Code Compliance: Install roofing and flashing work (and test where required to show) compliance with governing regulations.
5. Coordinate the installation of roofing sheets, flashings, stripping, coatings and surfacing, so that felts are not exposed to precipitation nor exposed overnights. Provide cut-offs at the end of each day's work, to cover exposed felts and insulation with a course of coated felt with joints and edges sealed with roofing cement. Remove cut-offs immediately before resuming work. Glaze coats installed ply-sheet courses at the end of each day's work where final surfacing has not been installed.
6. Substrate Joint Penetrations: Do not allow adhesive to penetrate substrate joints and enter building or damage existing or new insulation, vapor barriers (retarders) or other construction.
7. General Requirements: Apply roofing membrane in accordance with roofing material manufacturer's instructions. Application of roofing shall immediately follow application of base sheet and/or insulation as a continuous operation.

D. Agreement to Maintain Roofing: See Part 1, Section 01900, Guarantees and Warranties.

**END OF SECTION 07500**

## **SECTION 07530 - REPAIRS TO SINGLE PLY EPDM ROOFING MEMBRANE SYSTEM**

### **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. The extent of the all roofing repairs work to an existing un-warranted EPDM single-ply membrane roofing system, as shown on the drawings or as required to provide weather/water tight conditions.
- B. Existing System Type: Fully Adhered System.
- C. Section Includes:
  - 1. Substrate preparation;
  - 2. Flashings;
  - 3. All manufacturer's approved and /or recommended materials for repair work.
- D. Furnish all labor, materials and incidentals required to complete roofing repair work, flashing, and all other re-roofing components supplied by the roofing membrane manufacturer and as shown on the drawings and/or specified herein.

#### **1.3 SUBMITTALS**

- A. Product Data: Submit technical product information and installation instructions for each major roofing product or system required as necessary to demonstrate products comply with project requirements. Transmit a copy to the installer.
- B. Shop Drawings: Submit roofing membrane layout drawings showing outline of roof and roofing size, seam locations, specific roofing details illustrating relationships with adjacent construction, and flashing details at roof perimeter and roof penetrations.
  - 1. Shop drawings must be submitted to the roofing manufacturer and the Architect for review and obtaining approvals. The Architect shall not provide final review on shop drawings, unless manufacturer's review and stamped approval are indicated. Contractor to allow sufficient time required for shop drawings reviews.
  - 2. Shop drawings shall include, but not limited to the following:
    - a. Completely executed Notice of Awards roofing repair work from the roofing membrane manufacturer.
    - b. Roof deck type.
    - c. Location and type of all penetrations.
    - d. All roofing items which will be supplied by the roofing membrane manufacturer.
  - 3. Submit installation diagrams and instructions for installation of roofing system.

- C. Submit Installer Certification that Installer is franchised and/or approved by the roofing material manufacturer for installation of a fully guaranteed roof.
  - 1. The installer certification shall be submitted on the manufacturer's letterhead.
- D. Certifications: The Contractor / Installer (grantor) shall submit certifications to the Architect that the contract documents including the materials, methods and details of work provided for therein, are adequate to accomplish the specified results.

#### **1.4 QUALITY ASSURANCE**

- A. Roofing and associated repair work must be performed by a single firm, called the "Installer" in this section, so that there will be undivided responsibility for the specified performance of all component parts, including the following:
  - 1. Elastic roofing and base flashing.
  - 2. Sealant.
- B. Installer: The roofing contract shall be carried out only by an installer who is franchised or otherwise accepted in writing by the roofing materials manufacturer for installation of a fully guaranteed roof in accordance with the manufacturer of the roofing membrane system requirements.
- C. Roofing Contractor: The roofing contractor shall have a recommended minimum of five (5) years experience in the installation of the specified roofing system, with roofing projects of magnitude equivalent to the required work. Foreman employed for this project must submit evidence of having been trained by the roofing manufacturer.
  - 1. Minimum experience: Not less than a recommended five (5) years experience with roofing projects of magnitude equivalent to the required work.
  - 2. Maintenance Proximity: Recommended location of not more than two hours normal travel time from Installer's maintenance plant to project site.
- D. Manufacturer of Roofing Materials: Obtain primary roofing materials from a single manufacturer, who has published complete information on the required roofing system, and offers to guarantee the completed roofing installation as required. Obtain secondary materials from sources acceptable to the manufacturer of the primary roofing materials.
  - 1. Manufacturer of Roofing System is further limited to one who will fulfill the following requirements:
    - a. Participates in a pre-roofing conference.
    - b. Shows a record of continued production of the specified materials for at least twenty (20) years.
    - c. Provides a list of executed projects in the State of New Jersey.
    - d. Provides complete manufacturer's produced printed manuals describing the roofing membrane and accessory materials, technical specifications, method of installation, including manufacturer's standard detailed drawings.
    - e. Furnishes guarantee as per Section 01900.



2. The roofing materials shall meet 1A-90 criteria as shown in Factory Mutual Loss Prevention Data Bulletin I-28.
  3. Inspection: Upon completion of the installation, an inspection shall be made by a technical representative of the roofing manufacturer to ascertain that the roofing system has been installed according to roofing manufacturer's latest published specifications and details.
    - a. There shall be no deviation made from this specification without prior written approval by the manufacturer and the Architect.
- E. Contract Drawing Detail Approval: If the roofing manufacturer takes exception to the contract document details, the manufacturer shall provide the roofing contractor with acceptable details to be submitted to the Architect for review and approval.
1. This Project must receive Architect's approval through this process prior to shipment of materials to the project site.
  2. All roofing work required by the roofing system manufacturer shall be included in the contract at no additional cost to the Owner.
  3. Any unusual conditions or requirements must be brought to the attention of the manufacturer of the roofing membrane system.
  4. When field conditions necessitate modifications to originally approved shop drawings, a copy of the shop drawings which include outlining all modifications shall be submitted to the manufacturer for revisions and obtaining his approval.
- F. Final Inspection:
1. Approved Applicators must supply the roofing manufacturer with an As-Built shop drawing for final inspection.
  2. As-Built shop drawings must be approved and given a shop drawing number by the roofing manufacturer's construction materials department.
- G. Agreement to Maintain Roofing:
1. Provide Roofing subcontractor's agreement to maintain the roof systems and related roof sheet metal work in a weathertight and watertight condition for a period of **two (2) years** starting from the date of approved substantial completion date and in accordance with special Maintenance Contract outlined herein.
    - a. During the Maintenance Period, the Roofing subcontractor agrees that within 24 hours of receipt of notice from the Owner he will inspect and make immediate emergency repairs to defects or to leaks in the roof systems and related flashing work. He further agrees that within a reasonable time, he will restore the affected items to the standard of the original specifications and without voiding the Manufacturer guarantee. All emergency and permanent work during the life of the agreements to maintain the roof systems will be done without cost to the Owner, except in the event it is determined that such leaks were caused by abuse, lightning, hurricanes, tornado, hailstorm, other unusual climatic phenomena of the elements,

or failure of related work (except related roof sheet metal work included under the Agreement) installed by other parties.

- b. Agreement to maintain roofing system shall be in a written form acceptable to the Architect/Owner and before final payment is released for the project..
- c. If, 48 hours after notification of roof leakage, Contractor has not responded, Owner shall have the right, without invalidating his warranties and at the expense of the Contractor, to make any emergency temporary repairs that are required in order to protect the building and its contents from damage due to roof leakage.

## **1.5 PROJECT CONDITIONS**

- A. Begin roofing repair work when weather conditions are within acceptable limits according to manufacturer's installation instructions.

## **1.6 PRODUCT HANDLING**

- A. Deliver materials to project site in manufacturer's unopened sealed containers or unopened packages, with manufacturer's labels intact.
- B. Store materials in weather-protected environment, clear of ground and moisture.
  1. Storage of Materials will not be permitted on the roof, unless guaranteed, in writing, by the contractor, not to damage existing roofing.

## **1.7 JOB CONDITIONS**

- A. Proceed with roofing work only after substrate and penetrating work and repair of any damage, have been completed.
- B. Pre-Roofing Installation Conference:
  1. Prior to the installation of the roofing and associated work, meet at the project site with the installer, the installer of each component of associated work, the Architect, and other representatives directly concerned with performance of the work including, the roofing membrane system manufacturer and the Owner.
  2. Provide Record of the discussions of the conference and the decisions and agreements (or disagreements) reached, and furnish a copy for the record, to each party attending.
  3. Provide at least 48 hours advance notice to participants prior to convening pre-roofing conference.
  4. Review foreseeable methods and procedures related to the roofing work, including but not limited to the following;
    - a. Review Project requirements (Drawings, Specification and other Contract Documents).
    - b. Review status of conditions and substrates (by the roofing installer), including extent of moisture penetration in existing work, drying and similar considerations.
    - c. Review availability of materials, tradesmen, equipment and facilities needed to make progress and avoid delays.
    - d. Review weather and forecasted weather conditions and procedures for coping with

- unfavorable conditions.
  - e. Review regulations concerning code compliance environmental protection, health, safety, fire and similar considerations.
  - f. Establish units of work, including scheduling removals, preparation and replacement, such that each unit may be completed prior to end of each day's work.
  - g. Review the schedule for the work.
- C. Weather Conditions: Proceed with roofing work only when weather conditions are in compliance with manufacturer's recommended limitations and when conditions will permit the work to proceed in accordance with requirements and the manufacturer's recommendations.
- D. Certification: The contractor/installer (guarantor) shall submit a certification to the Architect that the contract documents including the materials, methods and details of work provided for therein, are adequate to accomplish the specified results. In so doing, the Guarantor also agrees either that the materials and methods specified herein are such as to insure the result required or he will, at no additional expense, furnish such additional or alternative items of labor and materials (or both) as may be necessary to accomplish the stated intent of the contract documents.
- E. Conditions not as Anticipated: The contractor shall immediately notify the Architect of upon discovery of conditions which may jeopardize successful accomplishment of and prevent execution of the work as intended by the Architect, as provided in, or not anticipated by the contract.

## **1.8 PERFORMANCE REQUIREMENTS**

- A. Initial Weather Resistance: It is required that the roofing and associated work be durable in normal weather exposure and not leak water. After completion of the roofing and associated work, and either during or immediately after a rain storm, (and before final acceptance of the work) the installer shall inspect the building for evidence of leaks in the roofing and associated work. Prepare a written report, within five (5) working days, covering the inspection, and submit to Owner (with a copy to the Architect).
1. The installer shall repair or replace roofing and associated work as required to eliminate leaks or other inability of roofing to initially withstand normal weather exposure.
  2. Abnormal weather is recognized to include hailstorms, lightning strikes, hurricanes and tornadic winds and other unusual phenomena of the weather as frequently covered by the buildings insurance.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURER / MATERIALS / REPAIR WORK**

- A. Basis of Design: Provide all required roofing repairs materials and accessories by Carlisle Syntec Inc.; or approved equal. Products shall include but are not limited to the following:
1. Splice Repairs:
    - a. Using a cotton rag or HP Splice Wipe, scrub the area in a circular motion until the

- surface is a consistent matte black color without any streaking.
  - b. Pull any loose edges of the splice apart, reapply splice adhesive and mate the two surfaces together.
  - c. Clean the splice area with Sure-Seal HP – 250 Primer on both sides extending past the width of the 6" cover strip.
  - d. Overlay the splice area with 6" wide Pressure-Sensitive Flashing, cover strip, or uncured Elastoform Flashing centered over the edge of the splice.
- 2. Flashing Repairs:
  - a. Flashing areas are to be cleaned using Weathered membrane Cleaner and then HP-250 Primer following the above instructions.
  - b. Flashings that are loose are to be re-secured.
  - c. Flashings are then to be overlaid with Pressure-Sensitive Elastoform.
- 3. All Components of the Roofing Repairs Work shall be products indicated in manufacturer's product data for indicated repairs work.
- 4. In Seam Sealant: Furnished by membrane manufacturer.
- 5. Splicing Tape: Furnished by the membrane manufacturer, 3" and 6" wide splicing tape for indicated applications and as per manufacturer's requirements for each indicated warranty.
- 6. Splicing Cement: Furnished by membrane manufacturer.
- 7. Lap Sealant: Compatible with existing and new materials with which it is used, shall be trowel or gun consistency furnished by membrane manufacturer.
- 8. Splice Cleaner or Primer: Furnished by membrane manufacturer.
- 9. Reinforced Securement Strips: Manufacturer's standard 6 inch or 9 inch wide by 100 feet long reinforced membrane perimeter fastening strip.
  - a. Seam Fastening Plates: 2 inch diameter FM approved metal plates used in conjunction with reinforced securement strip.
- 10. MANUFACTURED FLASHING MATERIALS:
  - a. Manufacturer's standard in accordance with his detailed drawings and printed specifications and instructions for installation.
- 11. Thermal Barrier Board:
  - a. Basis of Design: "Securerock Gypsum-Fiber" Roof Board as manufactured by USG; or approved equal.
    - 1) Water-resistant and silicone-treated gypsum core board, UL 790 Class A listing as a barrier board, and tested in accordance with ASTM E-84;
      - a) Flame Spread: 0
      - b) Smoke developed: 0
    - 2) Board Size: 4' x 4'.
    - 3) Thickness (Uniform): 1/2", R-Value per ASTM C518 = R.5.
    - 4) FM approved for Wind Uplift, tested for 60 and 90 psf.
    - 5) Stagger all joints with bottom layer.

## **PART 3 - EXECUTION**

### **3.1 GENERAL**

- A. Install all work in conformance with the manufacturers printed specifications and as shown on approved shop drawings.
- B. Cautionary Requirements:
  - 1. Do not use oil base or plastic roof cement.
  - 2. Do not allow waste products (petroleum, grease, oil, solvents, vegetable or mineral oil, animal fat) or direct steam venting to come in contact with EPDM roofing system.
  - 3. Do not expose membrane and accessories to a constant temperature in excess of 180°F.
  - 4. Cement and bonding adhesives contain petroleum distillates and are extremely flammable. Do not breath vapors or use near fire.
  - 5. Splice wash: Furnish by membrane manufacturer.
  - 6. Splicing and bonding surfaces shall be dry and clean.
  - 7. Roof surface shall be free of ponded water to eliminate future condensation problems.
  - 8. Seal Splice Wash used in the splicing procedure is extremely flammable; do not use near fire or flame or in a confined or unventilated area. Dispense only from a UL listed or approved safety can.
- C. Delivery, Storage and Handling:
  - 1. Deliver materials in original unopened containers.
  - 2. Containers labeled with manufacturer's name, brand name, installations, instructions and identification of various items.
  - 3. Store materials, except membrane, between 60°F and 80°F. If exposed to lower temperature, restore to proper temperature before using.
  - 4. Store materials, except membrane in a dry area and protect. Do not install damaged material. Damaged materials shall be replaced at contractor's expense.

### **3.2 INSPECTION**

- A. Installer must examine substrates and conditions under which roofing work is to be performed and must notify contractor in writing of unsatisfactory conditions. Do not proceed with roofing work until unsatisfactory conditions have been corrected in a manner acceptable to installer.

### **3.3 PREPARATION OF SUBSTRATES**

- A. Roof substrate shall be dry and free of foreign materials. Remove nails, nail heads and other protrusions from existing deck.
  - 1. Roof substrate shall be free of ponded water to eliminate future condensation problems.

### **3.4 INSTALLATION (GENERAL)**

- A. Comply with instructions of the primary roofing materials manufacturer.
- B. Coordinate with the re-installation of all existing metal flashing.
- C. Confinement of Materials: Do not allow fluid and plastic to spill or migrate beyond surfaces of intended application.
  - 1. Contractor to clean all migrated materials exposed to view.
- D. Performance: It is required that roofing repair work be water-tight for normal weather exposure and not deteriorate in excess of normal weathering.
- E. Clean site of all debris and contractor materials; restore damaged site work, (i.e.; shrubs, turf, curbs, etc.) to conditions prior to start of this work.
- F. Install accessories as shown and as recommended by the prime materials manufacturer.
- G. Coordinate Roofing repairs with flashing and other adjoining work to ensure proper sequencing of entire work.

### **3.5 PROTECTION**

- A. Contractor shall provide protection for roofing during construction period, so that the work will be without damage or deterioration except for normal weathering at time of acceptance.
- B. Daily Seal: Care should be exercised to ensure that water does not flow beneath any complete sections of roof. Temporarily seal loose edge of membrane when weather is threatening.

**END OF SECTION 07530**

## **SECTION 07600 - FLASHING, SHEET METAL AND ROOF ACCESSORIES**

### **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. Section Includes:
  - 1. Pre-manufactured metal flashing and counterflashing.
  - 2. Miscellaneous sheet metal accessories.
- B. Related Sections:
  - 1. Wood nailers and blocking: Section 06100.
  - 2. Roofing Materials: Elsewhere in Division 7.
  - 3. Joint Sealer Assemblies: Section 07900.

#### **1.3 PERFORMANCE REQUIREMENTS**

- A. Structural Requirements: Design and install work of this section, including attachment to the structure, to safely withstand dead, live and wind loads prescribed by the International Building Code.
- B. Environmental Requirements: Provide for expansion and contraction of system components due to air temperature and solar heat gain. Provide systems which will accommodate movement due to temperature change without buckling, failure of seals, undue stress on structural elements, reduction of performance, or other detrimental effects.
  - 1. Anticipated air temperature range: Minus 10°F to +105°F.

#### **1.4 REFERENCES**

- A. Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA).
- B. ASTM B 32; Standard Specification for Solder Metal.
- C. ASTM B 209; Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- D. ASTM B 101; Standard Specifications for Coated Copper Sheets and ASTM B 370; for Standard Specifications for Copper Sheets.
- E. Revere's "Copper and Common Sense", latest Edition.
- F. Aluminum Association, Design System for Aluminum Finishes (AA).

- G. American Architectural Manufacturers Association (AMMA), standards as referenced herein.
- H. ANSI/SPRI ES-1 Wind Design Standard for Edge Systems Used with Low Slope Roof Systems.

## **1.5 SUBMITTALS**

- A. Product Data: Manufacturer's specifications, standard details, and installation recommendations.
- B. Shop Drawings: Submit manufacturer's shop drawings showing material types, thickness, sizes, shapes, connections, layout, joining, profiles and anchorage of fabricated work and relation to adjacent work. edited product data or shop drawings, or a combination thereof, as required to accurately describe products to be provided. Show elevations, field measurements, reinforcement, expansion provisions, installation accessories, and detail sections of composite members. Draw layouts at scale of 1/4 inch per foot, details at scale of 3 inches per foot.
  - 1. **Provide shop drawings for, but not limited to, the following:**
    - a. Base flashing and counterflashing.
    - b. All other sheet metal work requiring fabrication.
    - c. Details of all joints for above.
    - d. Reglets and wedges.
  - 2. Sheet metal shop drawings shall be prepared to reflect SMACNA detail standards and in accordance with ANSI/SPRI ES-1 Test Protocols.
- C. Samples for Color Selection of Coated Finishes: Coating manufacturer's color selection data.
- D. Samples for Color Verification of Coated Finishes: For each type and color of coated finish submit 12-inch-long sections of extrusions and formed sections and 6-inch-square sheets.
- E. Pre-engineered fabricated and pre-finished sheet metal manufacturer's product literature, finish specification and sample finish warranty.
- F. Sheet metal fabricators and installers qualifications.

## **1.6 QUALITY ASSURANCE**

- A. Listing - Roof Perimeter Flashing System: Provide system listed in Factory Mutual System's "Approval Guide," classified for Zone 2 (I-90 windstorm resistance).
- B. Fabricator / Installer: A firm having a recommended minimum of 5 years of successful experience in fabrication and installation of sheet metal work of type and scope equivalent, to work of this section.
- C. Pre-engineered and Contractor: Fabricate and install sheet metal work in accordance with indicated reference standards.

## **1.7 DELIVERY, STORAGE, AND HANDLING**

- A. Store materials off ground, under cover. Protect from damage and deterioration.



- B. Handle materials to prevent damage to surfaces, edges and ends of sheet metal items. Damaged material shall be rejected and removed from the site.

## **1.8 WARRANTY**

- A. Warrant counterflashing system work to be free of defects in materials and workmanship, to resist blow-off and to be leak tight, due to conditions within stated design limits.
- B. Warrant Fluoropolymer coating to remain free, under normal atmospheric conditions, from peeling, checking, or cracking, and chalking in excess of numerical rating of 8 when measured in accordance with ASTM D659-86, or fading in excess of 5 N.B.S. units during warranty period.
  - 1. The Warranty period shall be **twenty (20) years** which starts the approved date of Substantial Completion.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Manufacturers: Subject to compliance with requirements, provide pre-engineered manufactured products approved by the roofing system manufacturer(s) which may include but not limited to the following:
  - 1. Aluminum Reglets:
    - a. Fry Reglet Corporation,
    - b. Hickman: W.P. Hickman Co.,
    - c. Keystone Flashing Company,
    - d. CertainTeed, Saint-Gobain,
    - e. or approved equal.

### **2.2 METALS**

- A. Type "A"; Copper: ASTM B 370; temper H00, cold rolled except where temper 060 is required for forming; not less than 16 oz./sq. ft. thick, unless otherwise indicated.
- B. Type "C"; Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated and with not less than the strength and durability of alloy and temper designated below:
  - 1. Type "C-4"; Factory-Painted Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness of 0.040 inch, unless otherwise indicated.

### **2.3 REGLETS**

- A. General: Provide reglets of type, material, and profile indicated, compatible with flashing. Form to securely interlock with counterflashing.
  - 1. Type - 3: Masonry Type: Provide "MA-1.5" (Brick) springlok Reglet by Fry Reglet Corp.; or approved equal.

- a. Aluminum: 3003-H14 alloy, meeting ASTM B209-95, 0.040" thick aluminum, color as selected by Architect from manufacturer's standard colors.
  - b. Provide 3" minimum lap joints.
  - c. Sawcut joint to receive reglet to a depth of approximately 1/4" greater than the depth of the horizontal back leg of reglet.
  - d. Insert reglet into sawcut and wedge in place using lead wedges installed at 12" o.c., minimum. Hammer wedges to a depth that will not interfere with sealant or backer rod.
  - e. Install sealant exterior sealant to form fillet bead minimizing holding of water.
2. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of the counterflashing's lower edge.

## **2.4 COUNTERFLASHING**

- A. Provide springlok counterflashing by Fry Reglet Corp.; Metal-Era; Xtreme Trim; or approved equal.
  1. 0.040" thick aluminum, as indicated on the drawings.
  2. Provide inside and outside corners including special angle where required.

## **2.5 MISCELLANEOUS MATERIALS AND ACCESSORIES**

- A. GENERAL REQUIREMENTS:
  1. All miscellaneous materials, accessories or other items essential to the completion of sheet metal installation, though not specifically shown or specified, must be provided.
  2. All such items, unless otherwise indicated on drawings or specified herein, shall be applied using sheet metal gauges which conform to recognized industry standards of sheet metal practices and without additional cost to the Owner. For sheet metal and pre-manufactured units, provide type of solder, ASTM B23, and corrosion-resistant metal as recommended by the producer of the metal sheets for fabrication and installation.
  3. Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, non-corrosive, size and gauge required for performance.
- B. Fasteners: Same metal as flashing/sheet metal, as indicated or other non-corrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.
- C. Bituminous Coating: FS TT-C-494 or SSPC - Paint 12, solvent type bituminous mastic, nominally free of sulfur, compounded for 15-mil dry film thickness per coat.
- D. Mastic Sealant: Polyisobutylene; non-hardening, non-skinning, non-drying, non-migrating sealant.
- E. Elastomeric Sealant: Generic type recommended by manufacturer of metal and fabricator of components being sealed; comply with FS TT-S-00227, TT-S-00230, or TT-S-001543.

- F. Epoxy Seam Sealer: 2-part non-corrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior non-moving joints including riveted joints.
- G. Paper Slip Sheet: 15-lb. rosin-sized building paper.
- H. Polyethylene Underlayment: 6-mil carbonated polyethylene film; FS L-P-512.

## **2.6 FABRICATION, GENERAL**

- A. Sheet Metal Fabrication Standard: Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.
- B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- C. Form exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
  - 1. Seams (Metal other than Aluminum): Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.
  - 2. Seams (Aluminum): Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
  - 3. Expansion Provisions: Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
  - 4. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
  - 5. Separate metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.
  - 6. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.
  - 7. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, noncorrosive metal recommended by sheet metal manufacturer.
    - A. Size: As recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured.

D. SHEET METAL FABRICATIONS

1. General: Fabricate sheet metal items in thickness or weight needed to comply with performance requirements.

**2.7 ALUMINUM FINISHES**

- A. General: Comply with Aluminum Association's (AA) "Designation System for Aluminum Finishes" for finish designations and application recommendations.
- B. High-Performance Organic Coating Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's instructions.
  1. Fluoropolymer 2-Coat Coating System: Manufacturer's standard 2-coat, thermocured system composed of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 605.2.
    - a. Color(s): As selected by the Architect from manufacturer's available full range of colors including custom colors.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence.
- B. Verify that substrates and openings are rigidly set, at proper lines and elevation, properly sized, and ready to receive units.
- C. Do not proceed with installation until conditions detrimental to proper installation have been corrected.
- D. Coordinate installation with roofing work and other adjacent elements of building envelope to ensure watertight construction.

**3.2 PREPARATION**

- A. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- B. Isolate all dissimilar metals by means of a heavy bituminous coating, approved paint coating, adhered polyethylene sheet, or other means recommended by SMACNA.

**3.3 INSTALLATION**

- A. General: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations, and with SMACNA "Architectural Sheet Metal Manual." Anchor units of work securely in place by methods indicated, providing for thermal expansion in metal units. Set units true to line and level indicated. Install work with laps, joints, and seams

permanently weatherproof and watertight.

- B. Sealed Joints: Form minimum 1-inch hooked joints and embed flange into sealant or adhesive. Form metal to completely conceal sealant or adhesive.
  - 1. Use joint adhesive for nonmoving joints specified not to be soldered.
  - 2. Moving Joints: When ambient temperature is moderate (40-70°F) at time of installation, set joined members for 50% movement either way. Adjust setting position of joined members proportionally for temperatures above 70°F. Do not install sealant at temperatures below 40°F. Refer to section on sealants elsewhere in Division 7 for handling and installation requirements for joint sealers.
- C. Workmanship: Install sheet metal work with lines, arises, and angles sharp and true. Exposed surfaces shall be free from visible waive, warp, buckle, and tool marks. Exposed edges shall be folded back neatly to form a 1/2-inch hem on the concealed side. Sheet metal exposed to the weather shall be watertight with provisions for expansion and contraction.
- D. Nailing: Nailing of sheet metal shall be confined generally to sheet metal having a maximum width of 18 inches. Nailing of flashings shall be confined to one edge only. Nails shall be evenly spaced not over 3 inches on centers and approximately 1/2-inch from edge unless otherwise specified or indicated. Face nailing will not be permitted. Where sheet metal is applied to other than wood surfaces, detailed shop drawings shall include locations for sleepers and nailing strips required to properly secure the work.
- E. Cleats: Provide cleats for sheet metal 18 inches and over in width. Space cleats evenly not over 12 inches on centers unless otherwise specified or indicated. Unless otherwise specified, cleats shall be not less than 2 inches wide by 3 inches long, and of the same material and thickness as the sheet metal being installed. One end of the cleat shall be secured with two nails and the cleat folded back over the nailheads. The other end shall be folded back over the nailheads. The other end shall be locked into the seam. Cleats for soldered seams shall be pretinned.
- F. Bolts, Rivets and Screws: Install bolts, rivets, and screws where indicated or required. Provide compatible washers where required to protect surface of sheet metal and to provide a watertight connection.
- G. Seams; General: Comply with SMACNA, Figures 3-2 & 3-3, Tables 2-1 & 3-1R, and other applicable designs to specific installation.
  - 1. Seams: straight and uniform in width and height with no solder showing on the face.
  - 2. Flat-lock Seams for All Non-Moving Seams; Finish not less than 3/4-inch wide.
  - 3. Loose-lock Expansion Seams: Not less than 3 inches wide, and shall provide minimum one-inch movement within the joint. Joint shall be completely filled with the specified sealant, applied at no less than 1/8 inch thick bed. Sealants are specified in Section 07900 - Joint Sealer Assemblies and shall be completely concealed.
  - 4. Flat Seams: Make seams in the direction of the flow.

- H. Soldering, Welding, and Mechanical Fastening: Where soldering is specified herein, it shall apply to copper and lead coated copper and galvanized metal items.
1. Soldering: Cretin edges of sheet metals, except lead coated material, before soldering is begun. Soldering shall be done slowly with well heated soldering irons, so as to thoroughly heat the seams and completely sweat the solder through the full width of the seam. Edges of lead-coated material to be soldered shall be scraped or wire-brushes to produce a bright surface, and seams shall have a liberal amount of flux brushed in before soldering is begun.
- I. Counterflashing: Except where indicated or specified otherwise, insert counterflashing receiver in horizontal saw cut joints locations as indicated. Snap counterflashing in receiver and extend down vertical surfaces over upturned vertical leg or base flashings not less than 4 inches. Exposed edges of counterflashing shall be folded ½-inch. End laps in counterflashings shall be overlapped 6", and shall be made weathertight with sealant.
1. Lengths of metal counterflashings shall not exceed 10 feet. The flashings shall be formed to the required shapes before installation. Corners shall be factory-formed with joints not less than 24 inches from the angle.
  2. Flashing receivers shall be secured in the horizontal joint with lead wedges spaced not to exceed 12 inches apart; on short runs, wedges shall be placed closer together.
  3. Counterflashing receiver joints shall be filled with caulking compound. Caulking is covered in Section 07900 - Joint Sealer Assemblies.

### **3.4 PROTECTION FROM CONTACT OF DISSIMILAR MATERIAL**

- A. Copper or Copper-Bearing Alloys: Surfaces in contact with dissimilar metal shall be painted with heavy bodied bituminous paint, or shall be separated by means of moisture-proof building felts.
- B. Aluminum: Surfaces shall not contact other metals except stainless steel, zinc, or zinc coating. Where aluminum contacts another metal, the dissimilar metal shall be painted with a primer followed by two coats of aluminum paint.
- C. All Metal: Surfaces in contact with mortar, concrete, or other masonry materials shall be painted with alkali-resistant coatings such as heavy-bodied bituminous paint.
- D. Wood or Other Absorptive Materials: Surfaces that may become repeatedly wet and in contact with metal shall be painted with two coats of aluminum paint or a coat of heavy-bodied bituminous paint.
- E. Dissimilar Metal: Paint with a non-lead pigmented paint if drainage from it passes over aluminum.
- F. All fasteners shall be compatible with the metal with which it is connected.

### **3.5 PROTECTION OF ROOFING**

- A. Protection of Applied Insulation: Completely cover each day's installation with finished

roofing specified. Protect open spaces between insulation and parapets or other walls and spaces at curbs, scuttles, and expansion joints, until permanent roofing and flashing is applied. Storing, walking, wheeling, or trucking will not be permitted directly on insulation or on roofed surfaces. Provide smooth, clean board or plank walkways, runways, and platforms near supports, as necessary to distribute weight to conform to indicated live load limits of roof construction.

- B. Upon completion of roofing work (including associated work) Installer shall advise Contractor of recommended procedures for surveillance and protection of roofing during remainder of construction period. At end of construction period, or at a time when remaining construction work will in no way affect or endanger roofing (at Contractor's option), Installer shall make a final inspection of roofing and prepare a written report to Contractor with copy to Owner) describing nature and extend of deterioration or damage found in the work.
- C. Installer shall repair or replace (as required) deteriorated or defective work found at time of final inspection. Installer shall be engaged by Contractor to repair damages to roofing which occurred subsequent to roofing installation and prior to final inspection.
- D. Repair or replace the roofing and associated work to a condition free of damage and deterioration at time of substantial completion.

### **3.6 CLEAN-UP**

- A. Clean exposed metal surfaces, removing substances which might cause corrosion of metal or deterioration of finishes.
- B. Upon completion of the specified work, remove all waste, debris, unused material and equipment from the site. Remove all misplaced material from nearby surfaces. Leave the job in a clean condition, acceptable to Owner.
- C. Advise Contractors of required procedures for surveillance and protection of flashings and sheet metal work during construction to ensure that work will be without damage or deterioration, other than natural weathering, at time of substantial completion.

**END OF SECTION 07600**

## **SECTION 07900 - JOINT SEALER ASSEMBLIES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Part 1 through Part 6 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section includes joint sealant assemblies for the following applications which include performances of materials, installation requirements, as indicated herein in this specification and as specified by cross references in other Parts 1 through 6 specification sections.
- B. Exterior joints in the following vertical surfaces and nontraffic horizontal surfaces:
  - 1. Perimeter joints at the rigid insulation.
  - 2. Joints between different materials.
  - 3. Perimeter joints at aluminum windows, as applicable.
  - 4. Other joints, as indicated.
- C. Exterior joints in the following horizontal traffic surfaces:
  - 1. Joints between different materials.
  - 2. Other joints as indicated.
- D. Interior joints in the following vertical surfaces and horizontal nontraffic surfaces:
  - 1. Perimeter joints of exterior openings, where indicated.
  - 2. Vertical control joints on exposed surfaces of interior unit masonry walls and partitions.
    - a. Perimeter joints between interior wall surfaces and frames of windows.
    - b. Joints between plumbing fixtures and adjoining walls, floors, and counters.
    - c. Other joints, as indicated.
- E. Preparation of all joints to be sealed.
- F. Exterior joints in vertical surfaces and nontraffic horizontal surfaces as indicated below:
  - 1. Cutting out as needed to give proper depth.
  - 2. Installation of proper back up material for each joint.
  - 3. Cleaning to remove all dust, dirt, oil films, loose material etc.
  - 4. Masking of adjacent surfaces.
  - 5. Priming of joint surfaces.

#### **1.3 QUALITY ASSURANCE**

- A. VOC Content of Interior Sealants and Sealant Primers: Comply with the following limits when calculated according to 40 CFR 59, Subpart D (EPA Method 24):



1. Sealants: Not more than 250 g/L.
  2. Sealant Primers for Nonporous Substrates: Not more than 250 g/L.
  3. Sealant Primers for Porous Substrates: Not more than 775 g/L.
- B. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.
1. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.
  2. Preconstruction Compatibility and Adhesion Testing: Submit to joint sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
    - a. Use manufacturers standard test methods to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
    - b. Testing will not be required if joint sealant manufacturers submit joint preparation data that are based on previous testing of current sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.
    - c. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to joint substrates as follows:
      - (1) Locate test joints where indicated or, if not indicated, as directed by Architect.
      - (2) Conduct field tests for each application indicated below:
        - (a) Each type of elastomeric sealant and joint substrate indicated.
        - (b) Each type of nonelastomeric sealant and joint substrate indicated.
      - (3) Notify Architect seven days in advance of dates and times when test joints will be erected.
      - (4) Sealant Manufacturer Responsibility:
        - (a) Manufacturer shall provide Technical Representative to perform Sealant Joint Field Pull Test. Manufacturer Sales representative is not acceptable to perform Field Pull Test.
        - (b) Technical Representative performing Field Pull Test must be an employee of the Sealant Manufacturer. Outside Sales Agent or Contract Technical Representative is not acceptable to perform Field Pull Test.
      - (5) Test Method: Test joint sealants by hand-pull method described below:
        - (a) Install joint sealants in 60-inch long joints using same materials and methods for joint preparation and joint-sealant installation required for the completed Work. Allow sealants to cure fully before testing.
        - (b) Make knife cuts from one side of joint to the other, followed by two cuts approximately 2 inches long at sides of joint and meeting cross cut at one end. Place a mark 1 inch from cross-cut end of 2-inch piece.
        - (c) Use fingers to grasp 2-inch piece of sealant between cross-cut end and 1-inch mark; pull firmly at a 90-degree angle or more in direction of side cuts while holding a ruler along side of sealant. Pull sealant out of joint to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum

- movement capability in extension; hold this position for 10 seconds.
- (d) For joints with dissimilar substrates, check adhesion to each substrate separately. Do this by extending cut along one side, checking adhesion to opposite side, and then repeating this procedure for opposite side.
  - (6) Report whether sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
  - (7) Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.
3. Mockups: Before installing joint sealants, apply elastomeric sealants as follows to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution:
- a. Joints in mockups of assemblies specified in other Sections that are indicated to receive elastomeric joint sealants, which are specified by reference to this Section.
  - b. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."
4. PROJECT CONDITIONS
- a. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:
    - (1) When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer.
    - (2) When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40°F.
    - (3) When joint substrates are wet.
  - b. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
  - c. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.
- C. Special Project Warranty and Guarantee:
- 1. Special Installer's Warranty: Written warranty, signed by Installer agreeing to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
    - a. Warranty Period: **Five (5) years** from approved date of Substantial Completion.
  - 2. Special Manufacturer's Warranty: Written warranty, signed by elastomeric sealant manufacturer agreeing to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
    - a. Warranty Period: **Five (5) years** from approved date of Substantial Completion.

3. Guarantee shall further state that all exterior sealant will be guaranteed against:
  - a. Adhesive or cohesive failure in joints where movement is under maximum 25% extension or compression.
  - b. Any crazing greater than 3 mils in depth developing on surface of material.

#### **1.4 SUBMITTALS**

- A. Product Data from manufacturers for each joint sealer product required, including instructions for joint preparation and joint sealer application, include color samples showing full range of colors available, for each product exposed to view.
  1. Product Certificates: Signed by manufacturers of joint sealants certifying that products furnished comply with requirements and are suitable for the use indicated.
- B. Product Test Reports: From a qualified testing agency indicating sealants comply with requirements, based on comprehensive testing of current product formulations.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver materials to Project site in original unopened containers or bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multi-component materials.
- B. Store and handle materials in compliance with manufacturers' recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

#### **1.6 PROJECT CONDITIONS**

- A. Environmental Conditions: Do not proceed with installation of joint sealers under the following conditions:
  1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturers.
  2. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturer or below 40°F (4.4°C).
  3. When joint substrates are wet due to rain, frost, condensation, or other causes.
- B. Joint Width Conditions: Do not proceed with installation of joint sealers where joint widths are less than allowed by joint sealer manufacturer for application indicated.
- C. Joint Substrate Conditions: Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from joint substrates.

### **PART 2 - PRODUCTS**

#### **2.1 MATERIALS, GENERAL**

- A. Compatibility: Provide joint sealers, joint fillers and other related materials that are

**FVHD-5295**

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compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

- B. Colors: Provide color of exposed joint sealers indicated or, if not otherwise indicated, as selected by Architect from manufacturer's available full range of standard and optional colors.
- C. Grade of Sealant: For each application, provide the grade of sealant (nonsag, self-leveling, no track, knife grade, etc.) as recommended by the manufacturer for the particular condition of installation (location, joint shape, ambient temperature, and similar conditions) to achieve the best possible overall performance. Grades specified herein are for normal condition of installation.

## 2.2 MISCELLANEOUS MATERIALS

- A. Joint Primer/Sealer: Provide the type of joint primer/sealer recommended by the sealant manufacturer of the joint surfaces to be primed or sealed.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.
- C. Sealant Backer Rod: Provide materials which are in compliance with ASTM D 1056; compressible rod stock of polyethylene foam, polyethylene jacketed polyurethane foam, butyl rubber foam, neoprene foam or other flexible, permanent, durable non-absorptive material as recommended for compatibility with sealant by the sealant manufacturer.
  - 1. Materials shall be capable of remaining resilient at temperatures down to minus 26°F.

## 2.3 SEALANTS

### A. Sealant Type 6: Hybrid Sealants (Silyl-Terminated Polyether (STPE) Joint Sealants

- 1. **STPE, S, NS, 50, NT:** Single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, silyl-terminated polyether joint sealant; ASTM C920, Type S, Grade NS, Class 50, Use NT.
  - a. Uses: Interior and exterior horizontal and vertical joints of door and window perimeters, expansion and control joints, coping and coping to facade joints, EIFS and architectural panels, fiber cement panels, etc.
  - b. Products: Subject to compliance with requirements, provide one of the following:
    - 1) "DynaTrol® I-XL Hybrid", as manufactured by Pecora Corporation. Available in ten (10) colors.
    - 2) "DynaTrol® I-XL Hybrid FTH", as manufactured by Pecora Corporation. Field tintable, available in fifty (50) colors.
    - 3) SikaHyflex® -150 LM, as manufactured by Sika Corporation.
    - 4) "MasterSeal® NP 150™", as manufactured by BASF Corporation.
    - 5) Or approved equal.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine joints indicated to receive joint sealers, with Installer present, compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealer -performance. Do not proceed with installation of joint sealers until unsatisfactory conditions have been corrected.

### **3.2 INSTALLATION**

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:
- B. Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; old joint sealers; oil; grease; waterproofing; water repellants; water; surface dirt; and frost.
- C. Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
- D. Remove laitance and form release agents from concrete.
- E. Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile; and other nonporous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.
- F. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on preconstruction joint sealer-substrate tests or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.
- G. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.
- H. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths which allow optimum sealant movement capability.
  - 1. Do not leave gaps between ends of joint fillers.
  - 2. Do not stretch, twist, puncture, or tear joint fillers.
  - 3. Remove absorbent joint fillers which have become wet prior to sealant application and replace with dry material.

- I. Install bond breaker tape between sealants and joint fillers, compression seals, or back of joints where adhesion of sealant to surfaces at back of joints would result in sealant failure.
- J. Install compressible seals serving as sealant backings to comply with requirements indicated above for joint fillers.
- K. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.

### **3.3 CLEANING**

- A. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

**END OF SECTION 07900**

## SECTION 08520 - ALUMINUM WINDOWS

### PART 1 - GENERAL

#### 1.01 SUMMARY

A. Section Includes:

1. Operating and Fixed Aluminum Window Units Including Integral Blinds between Glass Panes.
  - a. Single-Hung Aluminum Windows.
2. Glass and Glazing for Aluminum Windows.
3. Wood Blocking, Shims, Anchors, Clips, and all accessories necessary for a complete installation furnished and installed.
4. All aluminum trim and closure pieces
5. Installation labor, tools, equipment, and services necessary for installation of Aluminum Windows.

B. Related Sections:

1. Section 01030 – Alternate Bids
2. Section 07600 - Sheet Metal Flashing and Trim
3. Section 07900 - Joint Sealer Assemblies
4. Section 08800 – Glass and Glazing
5. Section 08870 – Security Window Film
6. Section 08871 – Security Glazing (Alternate Bid)

#### 1.02 REFERENCES

A. Aluminum Association (AA)

1. DAF-45 – “Designation System for Aluminum Finishes”

B. American Architectural Manufacturers Association (AAMA):

1. 101 – “Voluntary Performance Specification for Windows, Skylights and Glass Doors”
2. 502 – “Voluntary Specification for Field Testing of Newly Installed Fenestration Products”

3. 611 – “Voluntary Specification for Anodized Architectural Aluminum”
4. 1503 – “Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections”
5. 2400 – “Voluntary Specification for Installation of Windows with a Mounting Flange in Stud Frame Construction”
6. 2604 – “Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels”
7. 2605 – “Voluntary Specification, Performance Requirements and Test Procedures for Superior Performance Organic Coatings on Aluminum Extrusions and Panels”
8. CW-10 – “Care and Handling of Architectural Aluminum from Shop to Site”

C. American National Standards Institute (ANSI) Publications

1. Z97.1 – “Performance Specifications and Methods of Test for Safety Glazing Materials Used in Buildings”

D. ASTM International (ASTM) Publications:

1. C518 – “Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus”
2. C1036 – “Standard Specifications for Flat Glass”
3. C1048 – “Standard Specifications for Heat-Treated Flat Glass – Kind HS, Kind FT Coated and Uncoated Glass”
4. D3985 – “Standard Test Method for Oxygen Gas Transmission Rate Through Plastic Film and Sheeting Using a Coulometric Sensor”
5. E90 – “Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements”
6. E283 – “Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen”
7. E330 – “Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference”
8. E331 – “Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference”
9. E413 – “Classification for Rating Sound Insulation”
10. E547 – “Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Differential”



11. E774 - "Standard Specification for Sealed Insulating Glass Units"
  12. E1886 - "Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials"
  13. E1996 - "Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes"
  14. F588 - "Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact"
  15. F1249 - "Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor"
- E. Glass Association of North America (GANA):
1. "GANA Glazing Manual"
- F. Federal Specifications (FS) Publications:
1. FS-RR-W-365A "Wire Fabric (Insect Screening)"
- G. Insulating Glass Certification Council (IGCC)
- H. Insulating Glass Manufacturers Alliance (IGMA) Publications:
1. Glazing Guidelines
- I. National Fenestration Ratings Council (NFRC)
- J. Screen Manufacturers Association (SMA) Publications:
1. 1004 "Specifications for Aluminum Tubular Frame Screens for Windows"
- K. U.S. Consumer Product Safety Commission (CPSC) Publications:
1. 16 CFR Part 1201 "Safety Standard for Architectural Glazing Materials"
- L. Window and Door Manufacturers Association (WDMA) Publications:
1. ANSI/AAMA/WDMA 101/I.S.2/NAFS-02 "Voluntary Performance Specification for Windows, Skylights and Glass Doors"
  2. AAMA/AAMA/WDMA/CSA 101/I.S.2/A440 "Standard/Specification for Windows, Doors and Unit Skylights"

### 1.03 SUBMITTALS

- A. Submit "Letter of Conformance" in accordance with AIA A201 and Section 00800 – with the following supporting data:
1. Product data for each type of aluminum window specified, including standard construction details, dimensions of individual components, profiles, finishes, hardware, and accessories.
  2. Shop drawings for each type of window specified, including 1/4-inch scale wall elevations, typical unit elevations at 3/4-inch scale details, full size details of typical composite members and the following:
    - a. Panning Details
    - b. Flashing and drainage details.
    - c. Mullion details, including reinforcement and stiffeners.
    - d. Joinery details.
  3. Samples: Provide full-size or partial-size sample of window illustrating glazing system, quality of construction and finish.
  4. Product certificates signed by the window manufacturer certifying that window units comply with specified performance requirements.
  5. Submit certified independent laboratory test reports verifying compliance with all test requirements of 1.05 PERFORMANCE REQUIREMENTS as requested by Architect.

### 1.04 DEFINITIONS

- A. Performance grade number, included as part of the AAMA/WDMA/CSA 101/I.S.2/A440 product designation code, is actual design pressure in pounds force per square foot used to determine structural test pressure and water test pressure.

### 1.05 PERFORMANCE REQUIREMENTS

- A. Certify that windows have been tested in accordance with American Architectural Manufacturers Association (AAMA/WDMA) Specification for Performance Class specified complying with the following performance standards:
1. AAMA/WDMA/CSA 101/I.S.2/A440 Performance Requirements: Provide aluminum windows of the performance class and grade indicated that comply with AAMA/WDMA/CSA 101/I.S.2/A440.
    - a. Performance Class: H-AW
    - b. Performance Grade: 60

2. Uniform Structural Properties (ASTM E330): Pressure acting inward and outward. Window to be operable with permanent deformation at a maximum of 1/175 of its span, when tested at a static air pressure difference of the following:
    - a. Class H-AW-60: 90.0 PSF
  3. Water Resistance (ASTM E331 and ASTM E547): No water penetration at test pressure indicated.
    - a. Class H-AW-60: 12.00 PSF
  4. Air Leakage (ASTM E283):
    - a. Single-Hung Windows: Maximum 0.3 CFM per sq./ft. of total exterior surface area, when tested at a static air pressure differential of 6.2 PSF minimum.
    - b. Fixed Windows: Maximum 0.10 CFM per sq./ft. of total exterior surface area, when tested at a static air pressure differential of 6.2 PSF minimum.
- B. Delegated Design:
1. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated. Designated Design includes, but is not limited to:
    - a. Aluminum-framed entrances and storefronts indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by a qualified professional engineer responsible for their preparation in the State of New Jersey.
  2. Installer Qualifications: Engage an experienced installer to assume engineering responsibility and perform work of this Section who has specialized in installing entrance and storefront systems similar to those required for this Project and who is acceptable to manufacturer.
    - a. Engineering Responsibility: Prepare data for entrance and storefront systems, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
- C. Testing Agency Qualifications: Demonstrate to Architect's satisfaction, based on Architect's evaluation of criteria conforming to ASTM E 699, that the independent testing agency has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.
- D. Source Limitations: Obtain each type of entrance and storefront system through one source from a single manufacturer.
- E. Product Options: Drawings indicate size, profiles, and dimensional requirements of entrance and storefront systems and are based on the specific systems indicated. Other

manufacturers' systems with equal performance characteristics may be considered. Refer to Division 1 Section "Substitutions."

1. Do not modify intended aesthetic effect, as judged solely by Architect, except with Architect's approval and only to the extent needed to comply with performance requirements. Where modifications are proposed, submit comprehensive explanatory data to Architect for review.
- F. Preconstruction Sealant Testing: Perform sealant manufacturers' standard tests for compatibility and adhesion of sealants with each material that will come in contact with sealants and each condition required by system.
1. Test a minimum of 8 samples of each metal, glazing, and other material.
  2. Prepare samples using techniques and primers required for installed systems.
  3. Perform tests under environmental conditions that duplicate those under which systems will be installed.
  4. For materials that fail tests, determine corrective measures required to prepare each material to ensure compatibility with and adhesion of sealants, including, but not limited to, specially formulated primers. After performing these corrective measures on the minimum number of samples required for each material, retest materials.
- G. Welding Standards: Comply with applicable provisions of AWS D1.2, "Structural Welding Code–Aluminum."
- H. Mockups: Before installing entrance and storefront systems, construct mockups for each form of construction and finish required to verify selections made under Sample submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for completed Work.
1. Locate mockups in the location and of the size indicated or, if not indicated, as directed by Architect.
  2. Notify Architect 7 calendar days in advance of the dates and times when mockups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.
  4. Obtain Architect's approval of mockups before proceeding with installation of systems.
  5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
    - a. When directed, demolish and remove mockups from Project site.
    - b. Approved mockups in an undisturbed condition at the time of Substantial Completion may become part of the completed Work.

## 1.06 QUALITY ASSURANCE

- A. All window units shall be manufactured by a single source.
  - 1. All windows in any one project must be by the same manufacturer and with comparable frame depth, profile, glazing bite, and installation requirements. Manufacturer must provide a window system that can incorporate all window configurations used on the project.
  - 2. Standards: Requirements for aluminum windows, terminology and standard of performance, and fabrication workmanship are those specified and recommended in AAMA/WDMA/CSA 101/I.S.2/A440 and The Aluminum Association (AA).
    - a. All window units shall be labeled as conforming to AAMA/WDMA/CSA 101/I.S.2/A440. The label shall state the name of the manufacturer, the approved labeling agency and the product designation as specified in AAMA/WDMA/CSA 101/I.S.2/A440.
    - b. All testing shall be conducted using AAMA/WDMA/CSA 101/I.S.2/A440 Gateway Performance minimum specified test sizes.

## 1.07 DELIVERY, STORAGE AND HANDLING

- A. Transportation and Handling: Transport products by methods to avoid product damage, deliver in undamaged condition in manufacturer's unopened containers or packaging. Provide equipment and personnel to handle products by method to prevent soiling or damage. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- B. Storage and Protection: Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain with temperature and humidity ranges required by manufacturer's instruction.

## 1.08 WARRANTIES

- A. Aluminum Window Warranty
  - 1. Products: Submit a written warranty, executed by the window manufacturer, for the following:
    - a. Framing, sash components, and hardware: A period of **one (1) year** from the date of manufacture, against defective materials and workmanship, including substantial non-compliance with applicable specification requirements and industry standards, which results in premature failure of the windows or parts, outside of normal wear.
    - b. Insulated glass units: A period of **ten (10) years** from the date of manufacture, against insulated glass seal failure unrelated to glass breakage.

- c. In the event windows or components are found defective, manufacturer will repair or provide replacements without charge at manufacturer's option.
  - d. Where applicable, materials which are applied to the face of insulated glass for the purpose of simulating division in glass openings (SDL's) are warranted against detaching from the glass surface for a period of **five (5) years**.
  - e. Finish: Refer to Part 2, Section 2.06 "FINISHES" for warranty requirements.
  - f. Warranty for all components must be direct from the manufacturer (non-pass through) and non-prorated for the entire term. Warranty must be assignable to the non-residential owner, and transferable to subsequent owners through its length.
2. Installation: Submit a written warranty, executed by the window installer, for a period of **one (1) year** from the date of substantial completion, against defective materials or workmanship, including substantial non-compliance with applicable specification requirements, which result in premature failure.
- a. In the event installation of windows or components is found to be defective, installer will repair or provide replacements without charge at the installer's option.

## **PART 2 - PRODUCTS**

### **2.01 MANUFACTURERS**

#### A. Approved Manufacturers:

- 1. Quaker Window Products Company, Inc.; or approved equal.
  - a. Single-Hung Window: "H650 SH Series with Internal Blinds"
- 2. Substitutions: In accordance with AIA A201 and Section 00800.
  - a. Independent test reports certifying that proposed product is in accordance with, and meets all criteria specified in Section 1.05 "PERFORMANCE REQUIREMENTS".
  - b. Drawing details of elevations and sections, and samples in accordance with, and as specified in Section 1.03 "SUBMITTALS".
  - c. Copy of manufacturer's warranty specified in accordance with, and as specified in Section 1.08 "WARRANTIES".
  - d. Any additional information requested by the Architect.

### **2.02 MATERIALS**

#### A. Aluminum Members:

1. Extruded aluminum prime billet 6063-T6 alloy for primary components, 6063-T6, or 6061-T6 for structural components, all in accordance with (ASTM B221).

**B. Structural Thermal Barrier Construction:**

1. Frame and sash members shall include a structural thermal barrier, applied in the manufacturer's facility, using concealed low-conductance poured-in-place polyurethane in a pre-treated cavity.
2. After proper curing, the aluminum bridge section must be removed to provide a 3/8" minimum separation between interior and exterior metal surfaces in main frame members, and 11/16" minimum separation between interior and exterior metal surfaces in sash components.
3. The thermal barrier cavity shall have a manufactured mechanical lock applied consisting of abrading or lancing of the extrusion cavity prior to application of poured-in-place polyurethane.
4. Thermal Break Performance Requirements for main frame members:
  - a. Shear strength: minimum 2,500 Lbf in accordance with (AAMA TIR-A8).
  - b. Flexural strength: minimum 19,000 psi in accordance with (AAMA\_D 790).
  - c. Thermal conductivity of barrier material: maximum 0.84 BTU-in/(hr-ft<sup>2</sup>-°F) in accordance with (ASTM C 518).
  - d. Systems employing non-structural thermal barriers, or barrier systems absent of a mechanical lock application are not acceptable.
5. Thermal Break Performance Requirements for sash components:
  - a. Thermal conductivity of barrier material: maximum 0.21 BTU-in/(hr-ft<sup>2</sup>-°F) in accordance with (ASTM C 518).
  - b. Systems employing non-structural thermal barriers, or barrier systems absent of a mechanical lock application are not acceptable.

**2.03 MANUFACTURED UNITS**

- A. Principal window frame members shall have a minimum 0.070" wall thickness, which includes all hardware mounting webs, and sectional flanges.
- B. Window frame depth shall be 4 1/8" minimum.
- C. Sash Removal: "Side Load" design shall allow for lower sash to be removed from interior by detachment of balances.
- D. Glazing: Refer to Section 2.05 "GLASS MATERIALS".

## 2.04 COMPONENTS

- A. All fasteners, tools, equipment, and other materials necessary for a complete installation shall be furnished by the Contractor.
  - 1. Aluminum, nonmagnetic stainless steel, epoxy adhesive, or other materials warranted by the manufacturer to be noncorrosive and compatible with all window members, cladding, trim, hardware, anchors, and other components.
- B. Locking handles, cases, and strikes to be die cast or stainless steel.
- C. Thermoplastic or thermo-set plastic caps, housings, and other components to be injection-molded nylon, extruded PVC, or other suitable compound.
- D. Hardware:
  - 1. Balances:
    - a. High Performance block and tackle balance system which shall be in accordance with (AAMA 101) and (AAMA 902) for Class (5) performance requirements, with a minimum (0.30) Manual Applied Force Ratio (MAF).
  - 2. Sash Lock shall be aluminum spring-loaded gravity latch, located at bottom of lower sash.
  - 3. Lift handle shall be extruded, and integral with the bottom sash, and continuous.
- E. Insect Screens: Provide removable insect screen panel for each movable glazed sash.
  - 1. Screen Fabric: Aluminum: 18 by 16 mesh of 0.013" diameter wire. Comply with FS-RRW-365, Type VII, except black anodized or "gun metal" coating on wire.
  - 2. Screen Frame: Provide formed or extruded aluminum frames and removable vinyl fabric retainer spline.
    - a. Finish shall match window.
- F. Accessories:
  - 1. Safety Device Stops: For operable windows, provide stops to prevent opening distance shall be confirmed with the Owner. Stops shall be manufacturer's standard for intended use, and provided by the manufacturer. Application shall include tamper-proof screws.
  - 2. Sills: Manufacturer's standard exterior sills, as shown on Drawings.
    - a. Nailing Fin: Manufacturer's standard nailing fin.



- b. Sill Flashing: manufacturer's standard snap-on type, if required as shown on Drawings.
- 3. Trim: Manufacturer's standard interior snap trims, type as shown on Drawings.
- 4. Mullions: Provide mullions and cover plates as shown, matching window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections, as indicated. Provide mullions and cover plates capable of withstanding design loads of window units.
- 5. Muntins:
  - a. Simulated Divided Lite Muntins:
    - 1) Composition shall include:
      - i. Exterior applied extruded aluminum Muntin of specified width, continuously adhered to surface of glass with a high performance acrylic adhesive system.
      - ii. Roll formed aluminum of specified width, located between glass panes within the sealed insulated glass unit.
    - 2) Interior applied extruded aluminum Muntin of specified width, continuously adhered to surface of glass with a high performance acrylic adhesive system.
    - 3) Finish of Exterior and Interior applied muntin components shall comply with Section 2.06 "FINISHES".
    - 4) Finish color of Exterior and Interior applied muntins, and internal muntins shall match Window Frame.
- 6. Panning: Colonial Style, as shown on the drawings.
  - a. Provide extruded aluminum panning in accordance with (ASTM B221) by Window Manufacturer, type and size as indicated on Drawings.
  - b. Panning shall be cut to fit by Window Manufacturer.
  - c. Finish of Panning components shall comply with Section 2.06 "FINISHES", and color shall match Aluminum Windows.

## 2.05 GLASS MATERIALS:

- A. Coated Low Emissivity Glass: Type 1 (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), with coating type and performance characteristics complying with requirements specified below:
  - 1. Low E Coating: Surface #2 on insulated units.
  - 2. Approved Manufacturers:
    - a. "Loe<sup>3</sup>-366"; Cardinal Industries; or approved equal.
    - b. Approved Substitution by Architect.
- C. Insulating Glass with Internal Blinds:

- a. Insulated Glass Units with Internal Blinds shall be produced in a manufactured unit consisting of organically sealed panes of glass enclosing a hermetically sealed dehydrated air space and complying with ASTM E774 for performance classification indicated as well as with other requirements specified for glass characteristics, air space, sealing system, sealant, space material, and desiccants.
- b. Insulated Glass Units with Internal Blinds shall be the "Blink" series as manufactured by ODL, Inc.; or equivalent.
- c. Internal Blind Operation and Material:
  - 1) Blinds shall be operable with a raise / lower / tilt function.
  - 2) Standard blind operator shall be provided on the interior face of the window located along the side of the insulated glass unit.
  - 3) Internal Blind color shall be "White" unless otherwise specified.
- d. Total Thickness: 1"
- e. Thickness of Each Pane: As required for internal blind operation
- f. All exterior and interior glass shall be fully tempered where internal blinds are utilized.

## 2.06 FINISHES

### A. Finish of Aluminum Components

- 1. Finish of all exposed areas of aluminum windows and components shall be applied in accordance with the appropriate AAMA Voluntary Guide Specification shown below:
  - a. High Performance Organic Powder Coating conforming to (AAMA 2604), Voluntary Specification, Performance Requirements and Test Procedures which also meets the following standards:
    - 1) Powder Coating resin shall consist of Fluoroethylene Vinyl Ether (FEVE).
    - 2) Coatings which require a chrome based liquid primer or pretreatment are not allowed.
    - 3) Scratch resistance shall meet or exceed a pencil test of H in accordance with (ASTM D3363-00), "Standard Test Method for Film Hardness by Pencil Test."
    - 4) Abrasion resistance shall meet or exceed a Taber abrasion test of 1000 rotations in accordance with (ASTM D4060-14), "Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser".
  - b. Finish Warranty Period: 10 years from date of manufacture
  - c. Color Selection: White (to be selected from manufacturer's color chart).

## 2.07 FABRICATION

- A. Fabricate windows allowing for minimum clearances and shim spacing around perimeter of assembly, yet enabling installation.

- B. Rigidly fit joints and corners. Accurately fit and secure corners tight. Make corner joints flush, hairline, and weatherproof. Seal corner joints with sealant.
- C. Develop drainage holes with moisture pattern to exterior.
- D. Prepare components to receive anchor devices. Fabricate anchorage items.

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

#### A. Site Verification of Conditions:

1. Verify that building substrates permit installation of windows according to the manufacturer's instructions, approved shop drawings, calculations and contract documents.
2. Do not install windows until unsatisfactory conditions are corrected.

### **3.02 INSTALLATION**

#### A. Erection of Aluminum Windows

1. Install windows with skilled tradesmen in exact accordance with approved Shop Drawings, Installation Instructions, Specifications, and in accordance with (AAMA 101/I.S.2./ A440).
2. Windows must be installed plumb, square, and level for proper weathering and operation. Jamb must not be "sprung", bowed, or warped during installation.
3. Any uncoated aluminum components of Aluminum Window shall be insulated from direct contact with steel, masonry, concrete, or other dissimilar metals by bituminous paint, zinc chromate primer, nonconductive shims, or other suitable insulating materials.

#### B. Field Tests

1. Field testing procedure of installed windows shall be in accordance with AAMA 502.
2. The test pressure used during the field test procedure shall be 2/3 of the rated test pressure of the test specimen in accordance with AAMA 502. There shall be no optional variances over 2/3 used during testing.
3. Initial field testing must be performed prior to no more than 5% of windows have been installed. All field testing expenses shall be at the burden of the contractor

### **3.02 ADJUSTING AND CLEANING**

- A. After completion of window installation, windows shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, or other debris. Protection from this point shall be the responsibility of the General Contractor.

**END OF SECTION 08520**

## **SECTION 08800 - GLASS AND GLAZING**

### **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.
- B. Related Sections:
  - 1. Section 01030 - Alternate Bids
  - 2. Section 08520 - Aluminum Windows
  - 3. Section 08870 - Security Window Film
  - 4. Section 08871 - Security Glazing (Alternate Bid)

#### **1.2 SUMMARY**

- A. Extent of glass and glazing work is indicated on drawings and schedules.
- B. Types of work or locations requiring glass and glazing include, but are not limited to, glass types scheduled herein and on the drawings.
  - 1. Windows.

#### **1.3 QUALITY ASSURANCE**

- A. Glazing Standards: Comply with recommendations of Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual" except where more stringent requirements are indicated. Refer to those publications for definitions of glass and glazing terms not otherwise defined in this section or other referenced standards.
- B. Safety Glass: Categories I and II materials complying with testing requirements in CPSC 16CFR1201 and permanently marked with label of:
  - 1. Safety Glazing Certification Council (SGCC).
- C. Insulating Glass Seal Standard: Comply with ASTM E 774, Class C.
  - 1. Comply with International Building Code for insulated tempered glass.
  - 2. Label each unit permanently on spacer or on one pane.
  - 3. Certification agency:
    - a. Insulating Glass Certification Council (IGCC).
    - b. Associated Laboratories, Inc. (ALI).
- D. Single Source Responsibility for Glass: To ensure consistent quality of appearance and performance, provide materials produced by a single manufacturer or fabricator with a recommended 5 years of successful experience in the production of each kind and condition of glass indicated and composed of primary glass obtained from a single source for each type and class required.

- E. Installer (Glazier): A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program
  - 1. Firm with a recommended 5 years of successful experience in glazing work similar to required work.
- F. All glass shall bear the Label of the manufacturer.
- G. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with an appropriate certification label of IGCC.

#### **1.4 SUBMITTALS**

- A. Product Data: Submit manufacturer's technical data for each glazing material and fabricated glass product required, including documentation of compliance with requirements and instructions for handling, storing, installing, cleaning and protecting each type of glass and glazing material, and installation and maintenance instructions.
- B. Before any glass is delivered to the job site, submit sections and details of glass installation at framing members.
- C. Samples: Submit for verification purposes, 12" square samples of each type of glass indicated except for clear single pane units, and 12" long samples of each color required (except black) for each type of sealant or gasket exposed to view. Install sealant or gasket sample between two strips of material representative of adjoining framing system in color.
  - 1. Submit insulating glass samples with completed edge-seal construction, but hermetic seal need not be maintained.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Protect glass and glazing materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including condensation, of temperature changes, of direct exposure to sun, and from other causes.

#### **1.6 PROJECT CONDITIONS**

- A. Examine framing and substrate work to receive glass and glazing materials, and condition under which glass is to be installed. Do not proceed with glazing until unsatisfactory conditions have been corrected.
- B. Environmental Conditions: Do not proceed with glazing when ambient and substrate temperature conditions are outside the limits permitted by glazing material manufacturer or when joint substrates are wet due to rain, frost, condensation or other causes.
  - 1. Install liquid sealants at ambient and substrate temperatures above 40°F.

#### **1.7 WARRANTY**

- A. Manufacturer's Special Warranty on Coated-Glass Products: Written warranty, made out to

Owner and signed by coated-glass manufacturer agreeing to furnish replacements for those coated-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.

1. Warranty Period: **Ten (10) years** from date of Substantial Completion.
- B. Manufacturer's Special Warranty on Insulating Glass: Written warranty, made out to Owner and signed by insulating-glass manufacturer agreeing to furnish replacements for insulating-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
1. Warranty Period: **Ten (10) years** from date of Substantial Completion.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include; but are not limited to, the following:
1. Insulating Glass Products:
    - a. Pilkington, Libbey-Owens-Ford, (LOF)
    - b. Vitro Architectural Glass (formally PPG Glass)
    - c. Guardian Industries Corp.
    - d. Or approved equal

### **2.2 PRIMARY GLASS PRODUCTS**

- A. Clear Float Glass: ASTM C 1036, Type I (transparent glass, flat), Class 1 (clear), Quality-Q3 (glazing select).
- B. Heat Treated Float Glass (Tempered Glass): ASTM C 1048; Type I; Quality-Q3; Class I (clear)
1. Provide prime glass of color and type indicated, which has been heat treated to strengthen glass in bending to not less than 4.5 times annealed strength.
- C. Uncoated Tinted Float Glass: Type I (transparent glass, flat), Class 2 (tinted heat absorbing and light reducing), Quality-Q3 (glazing select), and as follows:
1. Manufacturer's standard **gray** tint, with visible light transmittance of 33% and shading coefficient of 0.31 for 1/4" thick glass.
- D. Patterned Glass (for all windows in Toilet Rooms): ASTM C 1036, Type II (patterned glass, flat), Form 3 (patterned), Quality-Q6 (glazing), Finish F1 (patterned one side), of pattern and class indicated below:
1. Pattern p3 (random), Class 1 (translucent).
    - a. Product: Subject to compliance with requirements, provide "Smooth Rough" by Guardian Industries Corp.; or approved equal.

- E. Energy Advantage Low-E Glass: Manufacturer's standard clear color Low-E glass, coated on third surface with light transmittance:
  - 1. Gray Tint: 33% and shading coefficient of .28 for 1/4" thick glass.

### **2.3 INSULATING GLAZING**

- A. Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190, and complying with other requirements specified.
- B. Provide insulating glass for applications in exterior doors, side lites, storefront units, curtain wall systems, aluminum windows and as follows:
  - 1. Exterior pane shall 1/4-inch thick tinted glass to meet indicated requirements.
  - 2. Interior pane shall be 1/4-inch thick "Low-E" coating on the third surface.
  - 3. Units shall be tempered where within 6 feet of a door or where "tempered" or "safety" glass is required by Code.
  - 4. Double Glass Performance Data:
    - a. Gray Tint (2<sup>nd</sup> surface):
      - 1) Visible light transmittance of 33%,
      - 2) Solar Energy Transmittance of 18%,
      - 3) U-Factor: Summer (Air) of 0.28,
      - 4) U-Factor: Winter (Air) of 0.29,
      - 5) Solar Heat Gain Coefficient of 0.25,
      - 6) Shading coefficient of 0.28.

### **2.4 ELASTOMERIC GLAZING SEALANTS AND PREFORMED GLAZING TAPES**

- A. General: Provide color of exposed glazing sealant compound as selected by Architect from manufacturer's standard colors, or black if no color is so selected. Comply with manufacturer's recommendations for selection of hardness, depending upon the location of each application, conditions at time of installation, and performance requirements as indicated. Select materials, and variations or modifications, carefully for compatibility with surfaces contacted in the installation.
- B. 1 Part Silicone Rubber Glazing Sealant: Elastomeric silicone sealant complying with FS TT-D-001543, Class A, non-sag. Provide acid type recommended by manufacturer where only non-porous bond surfaces are contacted; provide non-acid type recommended by manufacturer where one or more porous bond surfaces are contacted.
- C. Butyl Rubber Glazing Tape: Partly-vulcanized, self-adhesive, non-staining, elastomeric butyl rubber tape. 98% solids, intended for 35% compression, no appreciable deterioration for 3000 hour test in Atlas Weatherometer; either plain or pre-shimmed as required for proper installation of glass.



## **2.5 GLAZING COMPOUND FOR FIRE-RATED GLAZING MATERIALS**

- A. Glazing Tape: Closed cell polyvinyl chloride (PVC) foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume of 2 percent. Glass panels that exceed 1,393 sq. inches for 90-minute ratings must be glazed with fire-rated glazing tape supplied by manufacturer.
  - 1. Setting Blocks: Neoprene, EPDM, or silicone; tested for compatibility with glazing compound; of 70 to 90 Shore A hardness.
    - a. Cleaners, Primers, and Sealers: Type recommended by manufacturer of glass and gaskets.

## **2.6 MISCELLANEOUS GLAZING MATERIALS**

- A. Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.
- B. Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.
- C. Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.
- A. Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.
- B. Compressible Filler Rods: Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, flexible and resilient, with 5-10 psi compression strength for 25 percent deflection.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Require Glazier to inspect work of glass framing erector for compliance with manufacturing and installation tolerances, including those for size, squareness, offsets at corners; for presence and functioning of weep system; for existence of minimum required face or edge clearances; and for effective sealing of joinery. Obtain Glazier's written report listing conditions detrimental to performance of glazing work. Do not allow glazing work to proceed until unsatisfactory conditions have been corrected.

### **3.2 STANDARDS AND PERFORMANCE**

- A. Comply with combined printed recommendations of glass manufacturers, of manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including those of referenced glazing standards.
- B. Glazing channel dimensions as indicated in details are intended to provide for necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by job conditions at time of installation.

- C. Protect glass from edge damage during handling and installation; use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar. Rotate glass with flares or bevels along one horizontal edge which would occur in vicinity of setting blocks so that these are located at top of opening. Remove from project and dispose of glass units with edge damage or other imperfections of kind that, when installed, weakens glass and impairs performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.
- E. Inspect each piece of glass immediately before installation, and discard pieces which have significant edge damage or face imperfections.
- F. Unify appearance of each series of lites by setting each piece to match others as nearly as possible. Inspect each piece and set with pattern, draw and bow oriented in the same direction as other piece.
- G. Install insulating glass units to comply with recommendations by Sealed Insulating Glass Manufacturers Association, except as otherwise specifically indicated or recommended by glass and sealant manufacturers.

### **3.3 PREPARATION FOR GLAZING**

- A. Clean glazing channel and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrate. Remove lacquer from metal surfaces where elastomeric sealants are used.
- B. Apply primer or sealer to joint surfaces where recommended by sealant manufacturer.

### **3.4 GLAZING**

- A. Install setting blocks of proper size in sill rabbet, located one quarter of glass width from each corner, but with edge nearest corner not closer than 6" from corner, unless otherwise required. Set blocks in thin course of sealant which is acceptable for heel bead use.
- B. Provide spacers inside and out, of correct size and spacing to preserve required face clearances, for glass sizes larger than 50 united inches (length plus height), except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8" minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.
- C. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.
- D. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
- E. Provide compressible filler rods or equivalent back-up material, as recommended by sealant and glass manufacturers, to prevent sealant from extruding into glass channel weep systems

and from adhering to joints back surface as well as to control depth of sealant for optimum performance, unless otherwise indicated.

- F. Force sealants into glazing channels to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.
- G. Tool exposed surfaces of sealants to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.
- H. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not "walk" out when installation is subjected to movement.
- I. Miter cut wedge-shaped gaskets at corners and install gaskets in manner recommended by gasket manufacturer to prevent pull away at corners; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

### **3.5 PROTECTION AND CLEANING**

- A. Cure glazing sealants and compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability.
- B. Protect glass from breakage immediately upon installation by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces.
- C. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.
- D. Maintain glass in a reasonably clean condition during construction, so that it will not be damaged by corrosive action and will not contribute (by wash-off) to deterioration of glazing materials and other work. Comply with manufacturer's instructions.
- E. Wash and polish glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Comply with glass manufacturer's recommendations for final cleaning.

**END OF SECTION 08800**

## **SECTION 08870 - SECURITY WINDOW FILM**

### **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 SECTION INCLUDES**

- A. Field applied security film and rigid pvc cap system applied to glazed surfaces and glazing framing systems.

#### **1.3 RELATED SECTIONS**

- A. Section 01020 - Alternate Bids
- B. Section 08520 - Aluminum Windows
- C. Section 08800 - Glass and Glazing
- D. Section 08871 - Security Glazing (Alternate Bid)

#### **1.4 REFERENCES**

- A. ASHRAE - American Society for Heating, Refrigeration, and Air Conditioning Engineers; Handbook of Fundamentals.
- B. ASTM International (ASTM):
  - 1. ASTM D 882 - Standard Test Method for Tensile Properties of Thin Plastic Sheeting.
  - 2. ASTM D 1004 - Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting.
  - 3. ASTM D 1044 - Standard Method of Test for Resistance of Transparent Plastics to Surface Abrasion (Taber Abrader Test).
  - 4. ASTM D 2582 - Standard Test Method for Puncture-Propagation Tear Resistance of Plastic Film and Thin Sheeting.
  - 5. ASTM D 4830 - Standard Test Methods for Characterizing Thermoplastic Fabrics Used in Roofing and Waterproofing.
  - 6. ASTM E 84 - Standard Method of Test for Surface Burning Characteristics of Building Materials.
  - 7. ASTM E 308 - Standard Recommended Practice for Spectrophotometry and Description of Color in CIE 1931 System.

8. ASTM E 903 - Standard Methods of Test for Solar Absorbance, Reflectance and Transmittance of Materials Using Integrating Spheres.
  9. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
  10. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
- C. Window 5.2 - A Computer Tool for Analyzing Window Thermal Performance; Lawrence Berkeley Laboratory.
  - D. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test.
  - E. Consumer Products Safety Commission 16 CFR, Part 1201 - Safety Standard for Architectural Glazing Materials.
  - F. GSA Standard Test for Glazing and Glazing Systems Subject to Airblast Loadings.
  - G. ISO 16933, International Standard for Glass in Building: Explosion-resistant security glazing - Test and classification for arena air-blast testing.
  - H. Underwriters Laboratories Inc. (UL): UL 972 - Burglary Resisting Glazing Material.

## **1.5 PERFORMANCE REQUIREMENTS**

- A. Fire Performance: Surface burning characteristics when tested in accordance ASTM E 84:
  1. Flame Spread: 25, maximum.
  2. Smoke Developed: 450, maximum.
- B. Abrasion Resistance: Film must have a surface coating that is resistant to abrasion such that, less than 5 percent increase of transmitted light haze will result in accordance with ASTM D 1044 using 50 cycles, 500 grams weight, and the CS10F Calbrase Wheel.

## **1.6 SUBMITTALS**

- A. Submit under provisions of AIA A232 and Section 00800.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  1. Preparation instructions and recommendations.
  2. Storage and handling requirements and recommendations.
  3. Installation methods.
- C. Selection Samples: For each film specified, submit film samples representing manufacturer's film type for the project.

- D. Verification Samples: For each film specified, two samples representing film color and pattern.
- E. Performance Submittals: Provide laboratory data of emissivity and calculated window U-Factors for various outdoor temperatures based upon established calculation procedure defined by the ASHRAE Handbook of Fundamentals, Chapter 29, or Lawrence Berkeley Laboratory Window 5.2 Computer Program.
- F. **Letter from the manufacturer of the security film that the contractor is a certified installer.**
- G. **Shop drawings from the installer / manufacturer of the security window film illustrating all conditions of the Impact Protection Adhesive (IPA) overlap distance onto the adjacent glazing framing system.**

**Note: Installation of the security window film shall not proceed until the submittals of all conditions are submitted.**

## 1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten years experience.
- B. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five years demonstrated experience in installing products of the same type and scope as specified.
  - 1. **Provide documentation that the installer is authorized by the Manufacturer to perform Work specified in this section.**
  - 2. Provide a commercial building reference list of 5 properties where the installer has applied window film. This list will include the following information:
    - a. Name of building.
    - b. The name and telephone number of a management contact.
    - c. Type of glass.
    - d. Type of film.
    - e. Amount of film installed.
    - f. Date of completion.
  - 3. Provide a Glass Stress Analysis of the existing glass and proposed glass/film combination as recommended by the film manufacturer.
  - 4. Provide an application analysis to determine available energy cost reduction and savings.
- C. **Window Security Film Pre-Installation Meeting:** Prior to installation of the Security Window Film, there shall be a Pre-Installation Meeting with the General Contractor, Window Security Film Subcontractor, Construction Manager and the Architect. At this meeting, products and installation requirements and shall be reviewed.
- D. Mock-Up: Provide a mock-up for evaluation and approval by the Architect of surface preparation techniques and application workmanship.

1. Finish areas designated by Architect.
2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
3. Refinish mock-up area as required to produce acceptable work.

## **1.8 DELIVERY, STORAGE, AND HANDLING**

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.

## **1.9 PROJECT CONDITIONS**

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

## **1.10 WARRANTY**

- A. At project closeout, provide to Owner or Owners Representative an executed current copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.
- B. Basis of Design Manufacturer and the Authorized Window Film Dealer (collectively referred to as "Seller") warrant for **twelve (12) years** from installation, and provided that the product is maintained in accordance with the Window Care Instructions below, that the Safety & Security Window Film will:
  1. Maintain Adhesion Properties without blistering, bubbling, or delaminating from the glass,
  2. Maintain Appearance without discoloration,
  3. Maintain Strength, Tear, and Penetration Resistant Properties as defined in product literature.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Basis of Design: "Safety S140" Safety and Security Window Film by 3M Window Film; or approved equal.
  1. Subject to compliance with requirements of the Contract Documents, manufacturers offering products which may be incorporated in work include the following:
    - a. Equivalent by Saint-Gobain Solar Gard,
    - b. Or approved equal.
  2. Requests for substitutions will be considered in accordance with provisions of AIA A201 and Section 00800.

- B. Basis of Design: "BondKap Attachment System" as manufactured by FilmFastener LLC, or approved equal.

## 2.2 CLEAR MICROLAYERED SAFETY AND SECURITY WINDOW FILM

- A. Clear Microlayered Safety and Security Window Film: 3M, S140 Safety and Security Window Film; or approved equal.
  - 1. Physical / Mechanical Performance Properties:
    - a. Film Color: Clear.
    - b. Thickness: Nominal 14.0 mils (0.36 mm), comprised three laminated layers of optically clear polyester and contain a durable abrasion resistant coating over one surface.
    - c. Tensile Strength (ASTM D 882): 25,000 psi.
    - d. Break Strength (ASTM D 882) 25,000 psi (350 lbs. Per inch width)
    - e. Percent Elongation at Break (ASTM D 882): >125%
    - f. Percent Elongation at Yield (ASTM D882): greater than 100%.
  - 2. Uniformity: No noticeable pin holes, streaks, thin spots, scratches, banding or other optical defects.
  - 3. Variation in Total Transmission Across the Width: Less than 2 percent over the average at any portion along the length.
  - 4. Identification: Labeled as to Manufacturer as listed in this Section.
  - 5. Solar Performance Properties: Film applied to 1/4 Inch (6.4 mm) thick clear glass.
    - a. Visible Light Transmission (ASTM E 903): 85 percent.
    - b. Visible Reflection (ASTM E 903): Not more than 10 percent.
    - c. Ultraviolet Transmission (ASTM E 903): Less than 1 percent.
    - d. Solar Heat Gain Coefficient (ASTM E 903): 0.78.
  - 6. Impact Resistance for Safety Glazing: Tested on window glass.
    - a. Shall pass a 400 ft-lb impact when tested according to 16 CFR CPSC Part 1201 (Category 2) and ANSI Z97.1 (Class A, Unlimited).
  - 7. Bomb Blast Mitigation:
    - a. GSA Rating of "3B" (Low Hazard) with minimum blast load of 10 psi overpressure and 89 psi\*msec blast impulse.
  - 8. Impact Protection per ASTM's E1888 / E1996:
    - a. Film shall pass impact of Medium Large Missile "C" and withstand subsequent pressure cycling at 50 psf Design pressure with use of 3M Impact Protection Adhesive attachment system.
  - 9. Impact Protection Adhesive: Structural "wet glaze" film attachment system. Weatherable UV resistant polymer, moisture curable. Low VOC content and low odor.
    - a. Properties, as supplied:
      - 1) Color to closely match the existing glazing framing system:
        - a) Black



- b) White
- 2) Typical Cure Time: 3 – 7 days (25°C, 50% RH)
- 3) Full Adhesion: 7 – 14 days
- 4) Tack-Free Time (ASTM D 5895): 21 minutes (25°C, 50% RH)
- 5) Flow, Sag or Slump (ASTM D 2202): 0 inches
- 6) Specific Gravity: 1.4
- 7) Working Time: 10 – 20 minutes (25°C, 50% RH)
- 8) VOC Content: 16 g/L
- b. Uniformity: Product shall have uniform consistency and appearance, with no clumping.
  - 1) Contractor shall use “painters type” tape to maintain a uniform installation of IPA on the glazing metal frame.
- c. Identification: Labeled as to Manufacturer as listed in this Section.
- D. On various installation conditions, the glazing stop can have various profile(s). The contractor shall ensure that the IPA is installed a minimum dimension as indicated above and in accordance with the manufacturer’s printed instructions.

### 2.3 RIGID PVC ATTACHMENT SYSTEM

- A. Attachment System: Weatherable Rigid PVC secured using approved structural silicones such as Dow Corning 995 or GE SCS2000; or approved equal, "Wet Glaze" type attachment. The BondKap rigid PVC System; or approved equal, aids in the integrity of the silicone to maintain proper alignment and increases the tensile/tear strength of the silicone, while provided and aesthetic cover to an unsightly large bead of silicone. Provide one or more of the following product(s) as required to suite the required window conditions:
  - 1. BondKap, BK 2001; or approved equal.
    - a. Width: 1.516 inches.
    - b. Typically used for commercial storefront applications where added protection is necessary such as high profile faculities.
  - 2. BondKap, BK 2004; or approved equal.
    - a. Width: 1.30 inches.
    - b. Typically used for commercial storefront applications.
  - 3. BondKap, BK2005; or approved equal.
    - a. Width: 2.588 inches.
    - b. Typically used for commercial storefront doors.
  - 4. BondKap, BK 2006; or approved equal.
    - a. Width: 1.78 inches.
    - b. Typically used for commercial storefront doors.
  - 5. Material properties.
    - a. Full cure of silicone 30 to 60 days depending on BondKap; or approved equal, profile.
    - b. Strength and elongation dependent upon silicone used.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. If preparation of glass surfaces is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.
  - 1. Glass surfaces receiving new film should first be examined to verify that they are free from defects and imperfections, which will affect the final appearance:
- B. Do not proceed with installation until glass surfaces have been properly prepared and deviations from manufacturer's recommended tolerances are corrected. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result under the project conditions.
- C. At the request of the specifying authority, an adhesion test to the frame surface may be conducted by applying a 4 - 6 inch long bead, approximately 0.5 - 1 inch in width, masking one side of the frame surface underneath the strip with tape. Allow the Impact Protection Adhesive to cure for 7 days and test adhesion by pulling up on the masked end and a 90 degree angle. If cohesive failure is observed (adhesive residue left behind on the frame surface), adhesion is acceptable; if adhesive failure is observed (clean peel from the frame), adhesion is unacceptable and product is not recommended.
- D. Commencement of installation constitutes acceptance of conditions.
- E. Examination.
  - 1. Assure the Rigid PVC System is the correct length, color and profile for the installation.
  - 2. Assure the Rigid PVC System has not been subject to direct sunlight and has warped. If damage has occurred replace as necessary. Rigid PVC System will not warp once properly installed and has full adhesion with the structural silicone.

### **3.2 PREPARATION**

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Pre-cut the rigid PVC System strips as directed from the manufacturer.

### **3.3 INSTALLATION**

- A. Install in accordance with manufacturer's instructions (See attached 3M; or approved equal, Impact Protection Adhesive Attachment System document).
  - 1. Install film on surface 2 (single pane glass).
- B. Cut film edges neatly and square at a uniform distance of 1/8 inch (3 mm) to 1/16 inch (1.5 mm) of window sealant. Use new blade tips after 3 to 4 cuts.

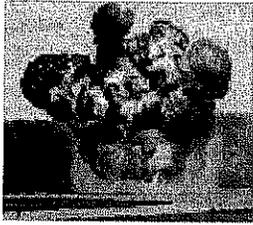
- C. Spray the slip solution, composed of one capful of baby shampoo or dishwashing liquid to 1 gallon of water, on window glass and adhesive to facilitate proper positioning of film.
- D. Apply film to glass and lightly spray film with slip solution.
- E. Squeegee from top to bottom of window. Spray slip solution to film and squeegee a second time.
- F. Bump film edge with lint-free towel wrapped around edge of a 5-way tool.
- G. Upon completion of film application, allow 30 days for moisture from film installation to dry thoroughly, and to allow film to dry flat with no moisture dimples when viewed under normal viewing conditions.
- H. Recommended minimum bead overlap for blast mitigation is 0.5 inch on both film and frame surfaces (excluding the glazing stops or compression gaskets).
- I. To ensure a straight and consistent bead width is achieved, masking tape may be applied to film and frame surfaces before application of the Impact Protection Adhesive.
- J. Dispense Impact Protection Adhesive with a caulk gun and nozzle having an opening cut to approximate size of desired bead width.
  - a. Install as specified by silicone manufacturer and rigid PVC System manufacturer.
  - b. Cut the tip of the silicone the appropriate size for the rigid PVC System in use.
  - c. Apply the silicone to the frame and glass or on the rigid PVC System depending on which profile is in use.
  - d. Place the Rigid PVC System on the silicone at the specified angle to achieve maximum contact with silicone frame and glass.
    - 1) If alternative rigid PVC System selection is used and silicone has been applied to the rigid PVC System, press the silicone rigid PVC System combination to the desired position on the glass and frame.
  - e. Apply sufficient pressure to assure silicone is mated to rigid PVC System, glass and frame. You should be able to perceive the silicone under the rigid PVC System. If not lift the rigid PVC System and apply more silicone. If an excess of silicone is protruding past the rigid PVC System, see cleaning and protection.

### **3.4 CLEANING AND PROTECTION**

- A. Remove left over material and debris from Work area. Use necessary means to protect film before, during, and after installation.
- B. Touch-up, repair or replace damaged products before Substantial Completion.
- C. After application of film, wash film using common window cleaning solutions, including ammonia solutions, 30 days after application. Do not use abrasive type cleaning agents and bristle brushes to avoid scratching film. Use synthetic sponges or soft cloths.
- D. Common window cleaning solutions may be used 30 days after installation.

**END OF SECTION 08870**

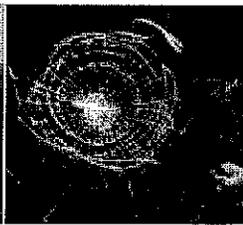
# 3M™ Impact Protection Adhesive Attachment System Installation Instructions



Bomb Blast



Windstorm

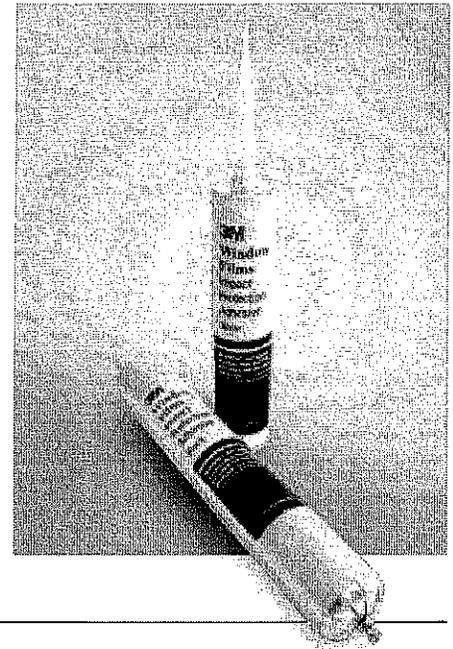


Forced Entry/Smash and Grab

3M™ Impact Protection Adhesive improves the overall performance of 3M™ Safety and Security Window Films. This unique window protection system combines the toughness of 3M's patented micro-layer safety film with 3M's world-class expertise in adhesives to help shield against impact energy from severe weather\*, earthquakes, bomb blasts or forced entry events. The 3M Impact Protection System also helps protect against personal injury from flying glass.

## 3M Impact Protection Adhesive:

- Commercial and Residential Applications
- Bomb Blast and Windstorm Testing results available upon request



The following procedure describes the materials and steps that are necessary to install the 3M™ Impact Protection Adhesive attachment system.

## Recommended Products:

- 3M™ Citrus Base Cleaner
- 3M™ Adhesive Remover, Citrus Base
- 3M™ Foaming Glass Cleaner
- 3M™ Super Fine Synthetic Steel Wool Pad
- 3M™ Scotch™ Safe Release™ Masking Tape
- 3M™ Scotch™ Long Mask™ Masking Tape
- 3M™ Impact Protection Adhesive
- 3M™ 94 Tape Primer

## Window Preparation

Glass panel shall be uniform in appearance. No fractures, holes or what is considered contaminated glass, or damaged glass, to be present.

Window frame to be uniform in appearance and free from dents, holes and cracks within two inches of the glass.

A thorough cleaning of the glazing and frame systems before applying film and attachment is required to remove all foreign matter and contaminants such as adhesives, grease, oil, dust, water, surface dirt, old sealant or glazing compounds by using 3M Citrus Base Cleaner, alcohol or commercial cleaning solution.

**Detergent or soap and water treatments are not recommended for this step.**

1. IPA does not require the glazing stop to be trimmed. **Note: If the glazing stop overlaps frame, trimming the glazing stop is optional (Reference Detail 1 on back).**
2. Spray the glazing bead, glass and frame surface with an appropriate cleaning product and remove with a lint free cloth. Repeat if necessary to remove all foreign materials from the glass and inside window frame surfaces. If the area is particularly dirty, a light scrub with a 3M 0000 Super Fine Synthetic Steel Wool Pad is recommended to loosen contaminants. Finish with a final cleaning if needed.
3. Spray the glass with 3M Foaming Glass Cleaner or a soap and water solution. Flush the glazing bead to glass area starting at the top and working down to drain or remove any remaining contaminant from the area. Scrape the glass with a razor to remove all foreign matter. Thoroughly clean the glass a final time with soapy water and a window cleaning squeegee. Wipe around the glazing bead and frame area one final time to remove all of the soap and water solution.

## Film Installation

1. Apply the 3M™ Ultra Safety & Security Window Film to the glass, making sure that the film is installed as far into the glazing channel as possible. Cut film as you normally would around the remaining glazing bead. **Remember to leave enough spacing between film and glazing bead to facilitate the removal of the slip solution.**
2. Squeegee the film to the glass by pressing firmly to remove as much of the slip solution as possible, especially at the edges of the film. **Two "edge-drying" methods can be used before applying the Impact Protection attachment system.**
  - A. The panels can be left for a few weeks to ensure proper drying of the film before the IPA system is applied.

— OR —

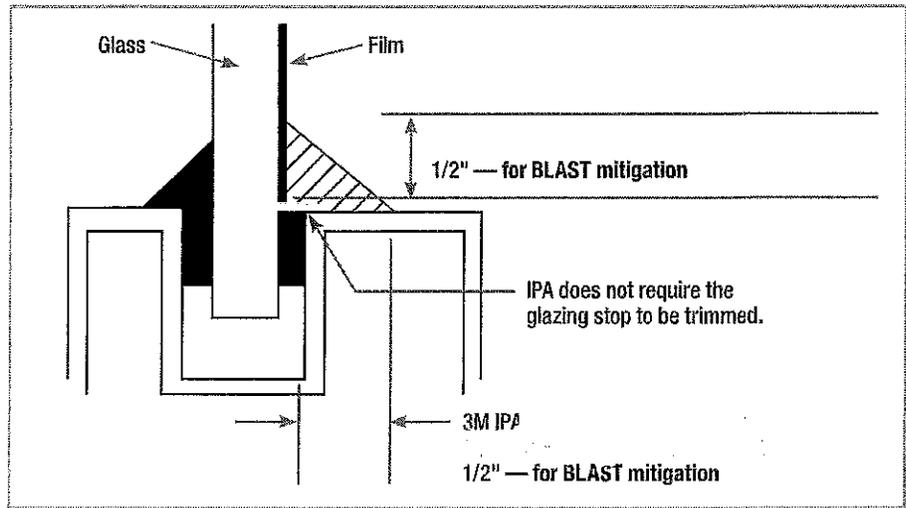
  - B. Using a hair dryer, gently heat and bump the edges of the film to hasten the removal and drying of the water from the edges. **Make sure that all of the soap and water solution has been removed from the film/glass/glazing channel before applying the IPA attachment system.**

# 3M

## Impact Protection Adhesive Installation

1. Clean and prime window frame prior to installing the 3M™ Impact Protection Adhesive (IPA). To clean the frame, wipe area using a cloth dampened with a citrus-based cleaner. Then clean same area using a cloth dampened with an ammonia-based glass cleaner. Allow at least 5 minutes before applying the 3M IPA. If window frame is painted (latex, oil, polished or powder coated), 3M™ 94 Tape Primer is required in the area that IPA will be applied.
2. Apply a 1" (25mm) strip of 3M™ Scotch™ Safe Release™ White Masking Tape to the ultra film surface 3/8" (9mm) in from the edge of the film to all four sides. **Note:** This dimension will depend on application—1/2"
3. Apply a 1" (25mm) strip of 3M Safe Release Blue Masking Tape to the window frame 3/8" (9mm) from the edge of the trimmed gasket. This will form a parallel sealant channel that will allow a uniform sealant bead to be applied to the glass/frame interface. **Note:** Use a clean drop cloth before proceeding to Step 3.
4. Apply a triangular bead of IPA Impact Protection Adhesive, and tool as needed to form an acceptable finish. Refer to Figure 1. **Read and follow all product information and installation instructions provided by 3M Company.** We recommend you start in a corner and apply the sealant bead out approximately 6". Then turn the gun and push the sealant bead to the next corner where the same method is repeated. **Pushing the sealant bead will insure proper penetration and minimize the chances of air gaps in the bead.** Pulling the gun can also be done if confident no air gaps are formed.

## Detail 1. 3M™ IPA System Typical Configuration



5. Smooth the sealant bead with an appropriate tool, if necessary, to give a finished look. Tooling should be completed in one continuous stroke immediately after adhesive application and before a skin forms.
6. Carefully remove the two masking strips from the glass/frame immediately after tooling. Do not allow the excess adhesive to contact the film, frame or flooring surfaces. A light colored drop cloth is needed to protect the work area. **Be careful not to step on adhesive and transfer it to surrounding surfaces.**

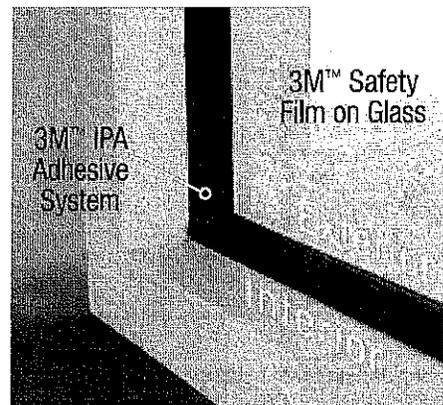
**Note:** Should you get some of the adhesive on the surrounding surfaces, an application and gentle wipe with a 3M Citrus Based Cleaner is recommended.

Curing time for the IPA will vary depending on temperature and relative humidity. It is not recommended to clean the film/IPA system for at least 36 hours following the installation. Full curing adhesion can take up to 7 days, depending on conditions.

Table 1

Property	Test Method Used	Units	3M IPA
Curing Time (25°C (77°F), 50% RH)		days	3-7
Full Adhesion		days	7-14
Tack-Free Time (25°C (77°F), 50% RH)	ASTM D5895	minutes	21
Flow, Sag or Slump		inches	0
Working Time (25°C (77°F), 50% RH)		minutes	10-20
Specific Gravity		n/a	1.403
VOC content		g/L	16
<b>As Cured—After 21 Days at 25°C (77°F), 50% RH</b>			
Ultimate Tensile Strength	ASTM D0412	psi (Mpa)	380 (2.62)
Ultimate Elongation	ASTM D0412	%	640
Durometer Hardness, Shore A	ASTM D2240	points	38-39
Tear Strength, Die B	ASTM D0624	ppi	72

Bomb Blast and Windstorm Testing results available upon request.



**Technical Information:** The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed. **Product Use:** Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application. **Warranty, Limited Remedy and Disclaimer:** Unless an additional warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price. **Limitation of Liability:** Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability. **Important Note:** Please consult Federal, State and Local Regulations. State Volatile Organic Compound (VOC) regulations may prohibit the use of certain alcohol solutions or solvents. You should check with your state environmental authorities to determine whether use of a solution or solvent is restricted or prohibited. When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use. Some of the products we recommend using may require the use of Personal Protection Equipment (PPE) such as gloves and/or adequate ventilation/respirators. Consult the product SDS for PPE recommendations as well as other recommended handling procedures.



**3M Renewable Energy Division**  
3M Center, Building 235-2S-27  
St. Paul, MN 55144-1000  
[www.3M.com/windowfilm](http://www.3M.com/windowfilm)

**IMPORTANT NOTICE:** This product is not approved in the State of Florida for use as hurricane, windstorm, or impact protection from wind-borne debris from a hurricane or windstorm. In compliance with Florida Statute 553.842, this product may not be advertised, sold, offered, provided, distributed, or marketed in the State of Florida as hurricane, windstorm, or impact protection from wind-borne debris from a hurricane or windstorm.

For more information, please call 1-800-480-1704 or visit us at [www.3M.com/windowfilm](http://www.3M.com/windowfilm)

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## SECTION 08871 - SECURITY GLAZING (ALTERNATE BID)

### PART 1 – GENERAL

#### 1.01 RELATED DOCUMENTS

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

#### 1.02 SUMMARY

- A. This Section includes the following where security glazing will be installed in lieu of security window film where indicated on the drawings:
  - 1. Insulated Security Glass Units
- B. Related Sections:
  - 1. Section 01030 - Alternate Bids.
  - 2. Section 08520 – Aluminum Windows.

#### 1.03 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Provide glazing systems produced by a manufacturer with a recommended 5-years successful experience in the fabrication of assemblies of the type and quality required.
- B. Installer’s Qualifications: Glazed systems shall be installed by a firm with a recommended 5-years successful experience in the installation of systems like those required.

#### 1.04 ACTION SUBMITTALS

- A. Samples: Submit 12-inch square samples of each glass product. Submit 6-inch-long samples of glazing sealant and glazing tape, for color review.
- B. Manufacturer’s Data: Submit manufacturers’ technical data and instructions for installing and maintaining each glazing material

#### 1.05 EXTENDED WARRANTIES

- A. General: Submit warranties provided by the manufacturer agreeing to repair or replace defective material or workmanship within the specified warranty periods, starting from the date of substantial completion.
  - 1. Insulated Security Glass Units: Submit a **ten (10) year** warranty against defects including loss of seal, interior clouding, and discoloration.

## **PART 2 - PRODUCTS**

### **2.01 MANUFACTURER**

- A. Security Glazing Manufacturers and Fabricators: Subject to compliance with requirements, firms producing glass products which may be incorporated into the work include the following:
  - 1. Armoured One, LLC; or approved equal.
    - a. Product:
      - 1) AOTSG1IGU – 1-inch Insulated Security Glass Unit
  - 2. Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include but are not limited to the following:
    - a. Or approved equal.

### **2.03 AOTSG1IGU - INSULATED SECURITY GLASS UNITS**

- A. Thickness: 1-inch Clear
- B. ASTM C1172 – Standard Specification for Laminated Architectural Flat Glass
- C. WEY-SA-C3 – Standard for shooter/attack certification and forced entry class 3.
- D. GSA Level C – General Services Administration Standard Test Method for Glazing and Window Systems Subject to Dynamic Overpressure Loadings.
- E. ASTM F1642 – Standard Test Method for Glazing and Glazing Systems Subject to Air blast Loadings.
- F. UL972 – Standard for Burglary Resisting Glazing.
- G. EN356 P4 – Testing and Classification of Resistance Against Manual Attack.
- H. ASTM E330 – Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- I. 16CFR1201-SafetyStandardforArchitecturalGlazingMaterials;ConsumerProductsSafety Commission; current edition.
- J. ANSIZ97.1-  
AmericanNationalStandardforSafetyGlazingMaterialsUsedinBuildings,Safety PerformanceSpecificationsandMethodsofTest;2010.

### **2.04 GLAZING MATERIALS**

- A. General: Provide standard color of glazing materials as selected by Architect. Comply with manufacturer's recommendations for applications and conditions at time of installation.
- B. Polyurethane Glazing Gasket: Polyurethane gasket or stick tape, color to be selected by Architect, thickness and size as shown on drawings.
- C. Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.

- D. Setting Blocks: Neoprene, silicone or EPDM, 70-90 durometer hardness, with proven compatibility with glazing materials used.
- E. Spacers: Neoprene, silicone or EPDM, 40-50 durometer hardness with proven compatibility with glazing materials used.
- F. Compressible Fillers: Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, proven to be compatible with sealants used, flexible and resilient, with 5-10 psi compression strength for 25% deflection.
- G. Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
  - 1. VOC Content: For sealants used inside of the weatherproofing system, not more than 250 g/L when calculated according to 40 CFR 59, Subpart D.
- H Dowsil 995 – Dow Corning Corp. (Applied to interior of vision kit to adhere security glazing to the interior or the frame.); or approved equal.

## **PART 3 – EXECUTION**

### **3.01 GENERAL**

- A. Each glazing installation must withstand normal temperature changes, and impact loading without failure of glass, failure of sealants or gaskets, deterioration of glazing materials and other defects in the work.
- B. Protect glass from damage during handling and installation, and subsequent operation of glazed components of the work. Discard units with edge damage or other imperfections.
- C. Glazing channel dimensions are intended to provide for necessary bite on glass, minimum edge clearance, and adequate tape or sealant thicknesses, with reasonable tolerances.
- D. Comply with recommendations by manufacturers of glass and glazing products, except where more stringent requirements are indicated, including those of referenced glazing standards.

### **3.02 PREPARATION**

- A. Clean glazing channel and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrate.
- B. Where sealants are used, apply primer or sealant to joint surfaces where recommended by sealant manufacturer.

### **3.03 GLAZING**

- A. Where indicated, provide spacers for size and spacing required for glass sizes larger than 50 united inches, except where gaskets or pre-shimmed tapes are used for glazing. Provide ¼-inch minimum bite of spacer on glass and use thickness equal to sealant



- width, except with sealant tape use thickness slightly less than final compressed thickness of tape.
- B. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
  - C. Where sealants are used at butt joints, apply sealant in thin continuous clear bead. Tool sealant to a uniform, continuous, even profile.
  - D. Using DOW 995 structural sealant, or approved equal, bond the security glazing to interior of frame, by adding a bead of sealant to the edges of glazing and the framing on both sides of glazing.
  - E. Apply glazing stops and clean up any excess structural sealants from finished surfaces.

#### **3.04 PROTECTION AND CLEANING**

- A. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.
- B. Wash and polish glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish Date of Substantial Completion in each area of project. Comply with glass manufacturer's recommendations for final cleaning.

**END OF SECTION 08871**

## **SECTION 09250 - GYPSUM DRYWALL**

### **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. Extent of type of gypsum drywall construction required is indicated on the drawings.
- B. This Section includes the following types of gypsum board construction:
  - 1. Gypsum drywall including screw-type metal support system
  - 2. Drywall finishing (joint tape and compound treatment)
  - 3. Vinyl trim and accessories.
- C. Related Section(s):
  - 1. Section 06400 - Architectural Woodwork.
  - 2. Section 07200 - Insulation.
  - 3. Section 09900 - Painting.

#### **1.3 QUALITY ASSURANCE**

- A. Manufacturer: Obtain gypsum board products from a single manufacturer, or from manufacturers recommended by the prime manufacturer of gypsum boards.
- B. Single Source Responsibility: Obtain each type of gypsum board and related joint treatment materials from a single manufacturer.
- C. Provide self extinguishing vinyl trim accessories which do not support combustion once flame source is removed.

#### **1.4 REFERENCES**

- A. ANSI/ASTM C 840 Gypsum Board Standard - Comply with applicable requirements for application and finishing of gypsum board, unless otherwise indicated.
- B. ASTM C 1396 Gypsum Wallboard Standard:
- C. ASTM C 754 Steel Framing Standard - Comply with applicable requirements for installation of steel framing for gypsum board.
- D. ASTM C11: Gypsum Board Terminology Standard:
- E. ASTM C 1278 Impact Resistance Gypsum Wallboard:
- F. ASTM D 1784 Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds

and Chlorinated Poly (Vinyl Chloride) (CPCV) Compounds

- G. ASTM D 3678 Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Interior-Profile Extrusions.
- H. Application and Finishing of Gypsum Panel Products: GA-216.

### **1.5 SUBMITTALS**

- A. Product Data: Submit manufacturer's product specifications and installation instructions for each gypsum drywall component, including other data as may be required to show compliance with these specifications.
  - 1. Provide product data for drywall shaft system.
  - 2. Provide product data for impact resistance gypsum wallboard system.
- B. Shop drawings: Submit shop drawings for wall metal stud framing for drywall shaft system and structural heavy gauge wall studs supporting other equipment, items, cabinets, etc.
  - 1. Show layout, spacings, sizes, thicknesses, and types of metal framing, fabrication, fastening and anchorage details, including mechanical fasteners.
  - 2. Show reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachments to other units of Work.
  - 3. Indicate manufacturer's design thickness to meet structural performance requirements for each wall mounted item, equipment, cabinet, etc.
- C. Samples: For the following products:
  - 1. Trim Accessories: Full-size Sample in 12-inch- (300-mm-) long length for each trim accessory indicated.

### **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver materials in original packages, containers or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion and damage from construction traffic and other causes. Neatly stack gypsum boards flat to prevent sagging.
- C. Handle gypsum boards to prevent damage to edges, ends, and surfaces. Do not bend or otherwise damage metal corner beads and trim.

### **1.7 PROJECT CONDITIONS**

- A. Environmental Conditions, General: Establish and maintain environmental conditions for application and finishing gypsum board to comply with ASTM C 840 and with gypsum board manufacturer's recommendations.

1. Minimum Room Temperatures: When ambient outdoor temperatures are below 55°F maintain continuous, comfortable building working temperature of not less than 55°F for 48 hours prior to application and continuously thereafter until drying is complete.
2. Ventilate building spaces as required to remove water in excess of that required for drying joint treatment material immediately after its application. Avoid drafts during dry, hot weather to prevent materials from drying too rapidly.
3. The gypsum drywall shall be installed only when the exterior walls have been erected, windows installed and the permanent roof is installed and in watertight condition to prevent the growth of mold. The contractor shall not install gypsum drywall panels that are wet, have the indication of mold, including but not limited to: fuzzy or splotchy surface contamination and discoloration.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Acceptable Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the Work include, but are not limited to, the following:
- B. Metal Support Systems:
  1. Allied Structural Industries
  2. Clark-Dietrich Building Systems
  3. National Gypsum Company
  4. Marino\WARE; a Div. of WARE Industries, Inc.
  5. United States Gypsum Co. (USG)
  6. Or approved equal
- C. Gypsum Boards and Related Products:
  1. CertainTeed Gypsum.
  2. Georgia-Pacific Corp.
  3. Gold Bond Building Products Div., National Gypsum Co.
  4. United States Gypsum Co.
  5. Continental Building Products
  6. Or approved equal
- D. Vinyl Trim
  1. Trim-Tex,
  2. Or approved equal.

### **2.2 METAL SUPPORT MATERIALS**

- A. General: Provide components which comply with ASTM C754 for materials and sizes, unless otherwise indicated.
- B. Wall/Partition Support Materials
  1. Studs ASTM C645, 25 gauge unless otherwise indicated. 20 gauge minimum at door jambs and wherever structural or other gauge studs are called for, for use with impact

resistant type gypsum wallboard, and to comply with applicable published instructions and recommendations of gypsum board manufacturer or, if not available, of "Gypsum Construction Handbook" published by United States Gypsum Company.

- a. Depth of Section: 3-5/8 inch, unless indicated otherwise.
  - b. Runners: Match studs; type recommended by stud manufacturer for floor and ceiling support of studs, and for vertical abutment of drywall work at other work.
  - c. Provide structural heavy gauge studs and bracing to support loads of wall mounted items, equipment, cabinets, etc. coordinate with other trades for weight requirements and mounting locations.
2. Furring Members: ASTM C645, 25 gauge hat-shaped.
  3. Fasteners for Stud Members: Provide fasteners of type, material, size, recommended by furring manufacturer for the substrate and application indicated.

### **2.3 GYPSUM BOARD**

- A. General: ASTM C1396, in maximum lengths available to minimize end to end joints.
  1. Type: Regular, unless otherwise indicated.
  2. Edges: Tapered.
  3. Thickness: 5/8 inch, unless otherwise indicated.

### **2.4 TRIM ACCESSORIES**

- A. General: Provide manufacturer's standard trim accessories of types indicated for drywall work, formed of galvanized steel unless otherwise indicated, with either knurled and perforated or expanded flanges for nailing or stapling, and beaded for concealment of flanges in joint compound. Provide corner beads, L-type edge trim beads, J-type edge trim beads, special L-kerf type edge trim beads, and one-piece control joint beads.
- B. Semi-Finishing Type: Manufacturer's standard trim units which are not to be finished with joint compound (non-beaded), where indicated.

### **2.5 JOINT TREATMENT MATERIALS (GYPSUM BOARD APPLICATION)**

- A. General: Provide materials complying with ASTM C475, ASTM C840, and recommendations of manufacturer of both gypsum board and joint treatment materials for the application indicated.
- B. Joint Tape: Manufacturer's recommended types for indicated applications. Use types compatible with joint compounds.
- C. Joint Compounds: Provide manufacturer's recommended types for indicated applications.
  1. For interior repair and patching work, provide chemical-hardening-type for bedding and filling, ready-mixed vinyl type or vinyl type powder type for topping.

## **2.6 MISCELLANEOUS MATERIALS**

- A. General: Provide auxiliary materials for gypsum drywall construction which comply with referenced standards and the recommendations of the manufacturer of the gypsum board.
- B. Gypsum Board Screws: ASTM C954 or ASTM C1002.
- C. Acoustical Sealant: Water base type, non-drying, non-bleeding, non-staining type; permanently elastic, as recommended by gypsum board manufacturer.
  - 1. Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining, latex sealant, [with a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24), complying with ASTM C 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E90.
  - 2. Acoustical Sealant for Concealed Joints: Nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant, with a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24), recommended for sealing interior concealed joints to reduce airborne sound transmission.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine substrates to which drywall construction attaches or abuts, preset hollow metal frames, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of drywall construction. Do not proceed with installation until unsatisfactory conditions have been corrected.

### **3.2 INSTALLATION OF METAL SUPPORT SYSTEMS**

- A. Do not bridge building expansion and control joints with steel framing or furring members; independently frame both sides of joints with framing or furring members or as indicated.
- B. Provide furring and shims as required to install new work over existing substrates so that new work will be installed plumb, level and true.
- C. Wall-Partition Support Systems:
  - 1. Install supplementary framing, blocking and bracing at terminations in the work and for support of fixtures, equipment services, heavy trim, furnishings, and similar work to comply with details indicated or, if not otherwise indicated, to comply with applicable published recommendations of gypsum board manufacturer or, if not available, of "Gypsum Construction Handbook" published by United States Gypsum Company.
  - 2. Isolate non-load bearing steel stud system from transfer of structural loading to system, both horizontally and vertically. Provide slip or cushioned type joints to attain lateral support and avoid axial loading.

- a. Install single deep-leg deflection tracks and anchor to building structure.
  - b. Connect drift clips to cold-formed metal framing and anchor to building structure.
3. Install runners tracks where gypsum drywall stud system abuts other work, except as otherwise indicated.
  4. Space studs 16 inches o.c. except as otherwise indicated.
  5. Provide runner tracks of same gauge as jamb studs. Space jack studs same as partition studs.
  6. Cut studs 1/2" short of full height to provide perimeter relief.
  7. Do not fasten studs to top track to allow independent movement of studs and track.

### **3.3 APPLICATION AND FINISHING OF GYPSUM BOARD, GENERAL**

- A. Pre-Installation Conference: Meet at the project site with the installers of related work and review the coordination and sequencing of work to ensure that everything to be concealed by gypsum drywall has been accomplished, and that chases, access panels, openings, supplementary framing and blocking and similar provisions have been completed.
- B. Install insulation at all partitions prior to gypsum board unless readily installed after board has been installed.
- C. Locate exposed end-butt joints as far from center of walls as possible, and stagger not less than 24 inches in alternate courses of board.
- D. Install wall/partition boards in manner which minimizes the number of end-butt joints or avoids them entirely where possible.
- E. Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16 inch open space between boards. Do not force into place.
- F. Locate either edge or end joints over supports, except in horizontal applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that like edges abut, tapered edges against tapered edges and mill-cut or field-cut ends against mill-cut or field-cut ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.
- G. Attach gypsum board to framing and blocking provided for additional support at openings and cutouts.
- H. Form control joints and expansion joints at locations indicated (@ 30'-0" o.c. or 900 sf), with space between edges of boards, prepared to receive trim accessories.
- I. Isolate perimeter of non-load-bearing drywall partitions at structural abutments. Provide 1/4 inch to 1/2 inch space and trim edge with "U" bead edge trim. Seal joints with acoustical sealant.

- J. Floating Construction: Where feasible, including where recommended by manufacturer, install gypsum board over wood framing, with "floating" internal corner construction.
- K. Space fasteners in gypsum boards in accordance with referenced gypsum board application and finishing standard and manufacturer's recommendations.

### **3.4 METHODS OF GYPSUM BOARD APPLICATION**

- A. Single-Layer Application: Install gypsum wallboard as follows:
  - 1. On partitions/walls apply gypsum board vertically (parallel to framing), unless otherwise indicated, and provide sheet lengths which will minimize end joints.

### **3.5 INSTALLATION OF DRYWALL TRIM ACCESSORIES**

- A. General: Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges to comply with manufacturer's recommendations.
- B. Install corner beads at external corners.
- C. Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed, and except where plastic trim is indicated. Provide type with face flange to receive joint compound. Install "L" type trim where drywall construction is tightly abutted to other construction and install special kerfed type where other work is kerfed to receive long leg of "L" type trim. Install U-type trim where edge is exposed, revealed, gasketed, or sealant-filled (including expansion joints).
  - 1. Install J-type semi-finishing trim where indicated, and where exterior gypsum board edges are not covered by applied moldings.
- D. Install metal control joint (beaded type) where indicated or required.

### **3.6 FINISHING OF DRYWALL**

- A. General: Apply joint treatment at gypsum board joints (both directions); flanges of corner bead, edge trim, and control joints; penetrations; fastener heads, surface defects and elsewhere as required to prepare work for decoration.
- B. Prefill open joints and rounded or beveled edges, if any, using setting-type joint compound.
- C. Apply joint tape at joints between gypsum boards, except where trim accessories are indicated.
- D. Apply joint compounds in 3 coats (not including prefill of openings in base), and sand between last 2 coats and after last coat.
- E. Gypsum Board Finish Level: Finish panels to level indicated below, according to ASTM C 840 and GA-214-07:
  - 1. **Level 5:** Finish for areas that are to receive gloss, semi-gloss, enamel or non-textured flat paints.



### **3.7 CLEANING AND PROTECTION**

- A. Remove temporary coverings used to protect other work.
- B. Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures gypsum drywall construction being without damage or deterioration at time of Substantial Completion.

**END OF SECTION 09250**

## **SECTION 09900 - PAINTING**

### **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.
- B. Related Section(s):
  - 1. Section 04200 - Unit Masonry.
  - 2. Section 05400 - Miscellaneous Structural Steel.
  - 3. Section 05500 - Metal Fabrications
  - 4. Section 06400 - Architectural Woodwork.
  - 5. Section 07200 - Insulation.
  - 6. Section 09250 - Gypsum Drywall.

#### **1.2 DESCRIPTION OF WORK**

- A. Extent of painting work is indicated on drawings and schedules, and as herein specified.
- B. Work includes painting and finishing of interior and exterior exposed items and surfaces throughout project, except as otherwise indicated.
  - 1. Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of work.
- C. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.
- D. Surfaces to be Painted: Except where natural finish of material is specifically noted as a surface not to be painted, paint exposed surfaces whether or not colors are designated in "schedules". Where items or surfaces are not specifically mentioned, paint the same as similar adjacent materials or areas. If color or finish is not designated, Architect will select these from standard colors or finishes available.
- E. Following categories of work are not included as part of field-applied finish work.
  - 1. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under various sections for structural steel, steel windows, miscellaneous metal, hollow metal work, and similar items. Also, for fabricated components such as architectural woodwork, wood casework, and shop fabricated or factory built mechanical and electrical equipment or accessories. This is in addition to the prime coat specified herein.
  - 2. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory-finishing or installer-finishing is specified for such items as (but not limited to) metal toilet enclosures, prefinished partition systems, acoustic materials, architectural

woodwork and casework, and shop fabricated or factory built mechanical and electrical equipment, including light fixtures, switchgear and distribution cabinets.

3. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, foundation spaces, furred areas, utility tunnels, pipe spaces, duct shafts and elevator shafts.
4. Finished Metal Surfaces: Unless otherwise indicated, metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting.
5. Operating Parts: Unless otherwise indicated, moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts will not require finish painting.
6. Do not paint over any code-required labels, such as Underwriters' Laboratories and Factory Mutual, or any equipment, identification, performance rating, name, or nomenclature plates.

### **1.3 QUALITY ASSURANCE**

- A. Single Source Responsibility: Provide primers and other undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer, and use only within recommended limits.
- B. Coordination of Work: Review other sections of these specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information or characteristics of finish materials provided for use, to ensure compatible prime coats are used.
- C. Industry Standards: Comply with industry standard established by the Painting and Decorating Contractors of America PDCA for applications, methods and recommendations and use of tools and equipment for paint and stain coatings, primers and block fillers.
- D. Lead and Chromate Contents:
  1. All paint products must be free of any lead or chromate contents.
- E. Volatile Organic Compound Compliant (VOC.):
  1. All paint products must meet the State VOC environmental regulations (OTC Regulation compliant) and the following:
    - a. Chemical Components of Interior Paints and Coatings: Provide products that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and the following chemical restrictions:
      - (1) Primer, Sealer and Undercoater: VOC content of not more than 200 g/L.
      - (2) Specialty Primer, Sealer and Undercoater: VOC content of not more than 350 g/L.
      - (3) Rust Preventative Coating: VOC content of not more than 400 g/L.
      - (4) Flat Paints and Coatings: VOC content of not more than 100 g/L.
      - (5) Non-Flat Paints and Coatings: VOC content of not more than 150 g/L.

- (6) Nonflat High Gloss Coatings: VOC content of not more than 250 g/L.
  - (7) Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
- G. Paint Coordination: Provide finish coats which are compatible with prime paints used. Review other sections of these specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information on characteristics of finish materials proposed for use, to ensure compatible prime coats are used. Provide barrier coats over incompatible primers or remove and reprime as required. Notify Architect in writing of any anticipated problems using specified coating systems with substrates primed by others.
1. At galvanized surfaces, primer shall be a zinc dust-zinc oxide coating.

#### **1.4 SUBMITTALS**

- A. Product Data: Submit manufacturer's technical information including paint label analysis and application instructions for each material proposed for use.
- B. Samples: Prior to beginning work, Contractor shall furnish color chips (2 fan decks) for surfaces to be painted. Use representative colors when preparing samples for review. Submit samples for Architect's review of color and texture only. Provide a listing of material and application for each coat of each finish sample.
1. On 12" x 12" hardboard, provide two samples of each color and material, with texture to simulate actual conditions. Resubmit samples as requested by Architect until acceptable sheen, color, and texture is achieved.
  2. On actual wood surfaces, provide two 4" x 8" samples of natural and stained wood finish. Label and identify each as to location and application.
- C. Acknowledgment of Contract Documents: Contractor / Installer shall submit to the Architect certifications signed by each of the Contractor and Installer attesting acknowledgment of requirements of the Contract Documents for specific project requirements indicated in this specifications.
1. Installer shall submit proof of evidence, (this project specification section) with his letter of certificate.
  2. Contractor / Installer shall not proceed with painting work of this section until submittal of required certifications are completed.
  3. Any work performed prior to completion of this submittal shall be subject to total rejection by the Architect. All rejected work shall be rectified without any additional cost to the Owner.
- D. Coating Maintenance Manual: Upon conclusion of the project, the contractor in conjunction with the coating manufacturer shall furnish a coating maintenance manual such as the Sherwin-Williams " Custodian Project Color and Product Information" report or equal. Manual shall include an area summary with finish schedule, area detail designating where

each product/color/finish was used, product data pages, SDS pages, care and cleaning instructions, touch up procedures and color samples of each color and finish used.

## **1.5 DELIVERY AND STORAGE**

- A. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label, and following information:

Name or title of material.

Fed. Spec. number, if applicable.

Manufacturer's stock number and date of manufacturer.

Manufacturer's name.

Contents by volume, for major pigment and vehicle constituents.

Thinning instructions.

Application instructions.

Color name and number.

## **1.6 JOB CONDITIONS**

- A. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45°F (7°C) and 95°F (35°C), unless otherwise permitted by paint manufacturer's printed instructions.
- B. Do not apply paint in snow, rain, fog or mist, or when relative humidity exceeds 85%, or to damp or wet surfaces, unless otherwise permitted by paint manufacturer's printed instructions.
- C. Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.
- D. Provide sufficient temporary illumination producing overall space/room minimum illumination level of 50 ft. candles while preparing or painting of surfaces and to assure the production of quality finishes.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include but are not limited to the following:
1. M A B
  2. Benjamin Moore
  3. PPG Architectural Coatings
  4. The Sherwin-Williams Company
  5. Linetec Inc.
  6. Or approved equal

## **2.2 COLORS AND FINISHES**

- A. Prior to beginning work, Contractor shall furnish color chips for surfaces to be painted from manufacturers full line of products. This shall include custom colors.
  - 1. Final acceptance of colors will be from samples supplied on the job.
- B. Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.

## **2.3 MATERIALS**

- A. Material Quality: Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best-grade product will not be acceptable.
- B. Provide undercoat paint recommended and produced by the same manufacturer as the finish coats. Use only thinners approved by the paint manufacturer, and use only within recommended limits.

## **2.4 EXTERIOR PAINT SCHEDULE**

- A. Basis of Design: Provide the following paint systems for the various substrates, or approved equal manufacturer / system:
- B. Semi-Gloss Enamel (Waterbased Alkyd Urethane Enamel Finish)
  - 1. 1st Coat: Sherwin-Williams, Extreme Bond Exterior Primer, B51W00150.
  - 2. 2nd Coat: Sherwin-Williams, Pro Industrial Waterbased Alkyd Urethane, B53-1150.
  - 3. 3rd Coat: Sherwin-Williams, Pro Industrial Waterbased Alkyd Urethane, B53-1150.
  - 4. Apply to the following exterior surfaces: Lintels, ferrous metal, and other exterior assemblies to receive paint.
  - 5. Apply as many coats as necessary to produce a uniform substrate and finish appearance.

## **2.5 INTERIOR PAINT SCHEDULE**

- A. Semi-Gloss (Satin) Enamel:
  - 1. 1st Coat: Sherwin-Williams, Pro Industrial Pro-Cryl Universal Primer, B66W310.
  - 2. 2nd Coat: Acrylic Enamel, Sherwin-Williams, Pro Industrial HP Acrylic, B66-650.
  - 3. 3rd Coat: Acrylic Enamel, Sherwin-Williams, Pro Industrial HP Acrylic, B66-650.
  - 4. Apply to following interior surfaces: Miscellaneous steel and ferrous metal fabrications.

5. Apply as many coats as necessary to produce a uniform substrate and finish appearance.

B. Egg-Shell / Satin Enamel - Acrylic Latex:

1. Base Coats: Enamel Undercoat; Primer-Sealer to suit substrate or Loxon Block Surfacer, A24 for Concrete Masonry/CMU Block.

\* Block Filler shall be Level 3 - Premium Fill; one or multiple coats for high performance block filler in accordance with PDCA industry standards. Apply mock-up to confirm appearance before application of finish coats.

2. 2nd Coat: Sherwin-Williams, ProMar 200 Zero VOC Eg-Shel, B20-2600 Series.
3. 3rd Coat: Sherwin-Williams, ProMar 200 Zero VOC Eg-Shel, B20-2600 Series.
4. Apply to the following interior surfaces: Concrete masonry units, gypsum drywall and other interior assemblies to receive paint.
5. Apply as many coats as necessary to produce a uniform substrate and finish appearance.

## 2.6 EXTRA STOCK

- A. Contractor shall provide one gallon of extra stock for each color/type selected for use on the project. Provide unopened containers clearly marked with manufacturers color number and name.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. Applicator must examine areas and conditions under which painting work is to be applied and notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions, included rotted or otherwise defective materials, have been observed by all concerned and corrected in a manner acceptable to Applicator.
- B. Starting of painting work will be construed as Applicator's acceptance of surfaces and conditions within any particular area.
- C. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.

### 3.2 SURFACE PREPARATION

- A. General:
  1. Perform preparation and cleaning procedures in accordance with paint manufacturer's instructions and as herein specified, for each particular substrate condition.

2. Provide barrier coats over incompatible primers or remove and reprime as required. Notify Architect in writing of any anticipated problems in using the specified coating systems with substrates primed by others.
3. Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for complete painting of items and adjacent surfaces. Following completion of painting of each space or area, reinstall removed items.
4. Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so that contaminants from cleaning process will not fall onto wet, newly-painted surfaces.
5. Painting of materials shall commence only when the moisture content of the materials complies with manufacturer's recommendations as follows:
  - a. Concrete and masonry - 22% maximum.
  - b. Gypsum drywall - 12% maximum.
  - c. Wood (exterior) - 15% maximum.
  - d. Wood (interior) - 8% maximum.

B. Cementitious Materials:

1. Prepare cementitious surfaces of concrete, concrete block, cement plaster and gypsum drywall board to be painted by removing efflorescence, chalk, dust, dirt, grease, oils, and by roughening as required to remove glaze.
2. Determine alkalinity and moisture content of surfaces to be painted by performing appropriate tests. If surfaces are found to be sufficiently alkaline to cause blistering and burning of finish paint, correct this condition before application of paint. Do not paint over surfaces where moisture content exceeds that permitted in manufacturer's printed directions.

C. Wood:

1. Clean wood surfaces to be painted of dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sandpaper smooth those finished surfaces exposed to view, and dust off. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer, before application of priming coat. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood-filler. Sandpaper smooth when dried.
2. Prime, stain, or seal wood required to be job-painted immediately upon delivery to job. Prime edges, ends, faces, undersides, and backsides of such wood, including cabinets, counters, cases, paneling.
3. When transparent finish is required, use spar varnish for backpriming.



D. Ferrous Metals:

1. Clean ferrous surfaces, which are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.
2. Touch-up shop-applied prime coats wherever damaged or bare, where required by other sections of these specifications. Clean and touch-up with same type shop primer.
3. Galvanized Surfaces: Clean free of oil and surface contaminants with non-petroleum based solvent.

### 3.3 MATERIALS PREPARATION

- A. Mix and prepare painting materials in accordance with manufacturer's directions.
- B. Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.
- C. Stir materials before application to produce a mixture of uniform density, and stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
- D. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

### 3.4 APPLICATION

- A. General: Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.
- B. Where finish schedule calls for walls, floors or ceilings to be painted, paint all new and existing surfaces in same area. Paint from corner to corner on walls, floors, or ceilings, or to a major change in direction of surface to be painted. Provide crisp, clean, sharp lines where new painted surfaces abut existing painted surfaces.
- C. **Apply additional coats when undercoats, stains or other conditions show through final coat of paint, until paint film is of uniform finish, color and appearance. Give special attention to insure that surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.**
- D. Sand lightly between each succeeding enamel coat.
- E. Scheduling Painting: Apply first-coat material to surfaces that have been cleaned, pretreated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
- F. Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate

thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

- G. **Minimum Coating Thickness:** Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as recommended by coating manufacturer and an acceptable finished appearance in finish, color and appearance as determined by the Architect.
- H. Primer Coat: Apply primer coat of material which is required to be painted or finished, and which has not been prime coated by others.
  - 1. **Re-coat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects due to insufficient sealing.**
- I. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness or other surface imperfections will not be acceptable.
- J. Completed Work: Match approved samples for color, texture and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

### **3.5 CLEAN-UP AND PROTECTION**

- A. Clean-Up: During progress of work, remove from site discarded paint materials, rubbish, cans and rags at end of each work day.
- B. Upon completion of painting work, clean all paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.
- C. Protection: Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
  - 1. Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.
  - 2. At completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.

**END OF SECTION 09900**