



Project Manual For:
ISD 2137 Kingsland Public Schools

705 North Section Avenue
Spring Valley, MN 55975

2024

Issue Date: December 16,



SECTION 00 00 10
PROJECT MANUAL TITLE PAGE

OWNER

ISD 2137/Kingsland Public Schools
705 North Section Avenue
Spring Valley, MN 55975

Construction Manager

ICS Consulting, LLC (“ICS”)

1331 Tyler Street NE Suite 101
Minneapolis, MN 55413
Phone: 763-354-2670
Fax: 763-780-2866

Project Director: Todd Wetzel

Email: todd.wetzel@ics-builds.com

Direct: 507-291-0452

**ROOFING CONSULTANT
ENGINEER**

The Garland Company
Engineering
3800 E 91st Street
155, West
Cleveland, OH 44105
Phone: 651-666-0901

STRUCTURAL

HavTek Structural
5555 County Rd
Waconia, MN 55387
Phone: 952-935-1113

Contact: Brian Murrell
Havlik

bmurrell@garlandco.com

Contact: Greg

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SECTION 00 20 00
INSTRUCTIONS TO BIDDERS

The INSTRUCTIONS TO BIDDERS, American Institute of Architects (AIA), AIA Document A701-2018, containing Articles 1 through 8, are hereby made part of this project manual and bound herein.

Refer to Section 01 11 00 – Summary of Work for scope of work for the bid packages.

END OF SECTION 00 20 00



AIA® Document A701® – 2018

Instructions to Bidders

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

Kingsland Public Schools 2024 Bond Project
705 North Section Avenue
Spring Valley, MN 55975

THE OWNER:
(Name, legal status, address, and other information)

Kingsland Public Schools, ISD #2137
705 North Section Avenue
Spring Valley, MN 55975

THE ARCHITECT:
(Name, legal status, address, and other information)

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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.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™–2017, Owner’s Instructions to the Architect, Parts A and B will be completed prior to using this document.

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

- .1 the Bidder has read and understands the Bidding Documents;
- .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- .3 the Bid complies with the Bidding Documents;
- .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;
- .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- .6 the Bidder has investigated all required fees, permits and regulatory requirement of authorities have jurisdiction and has properly included in the submitted bid the cost of such fees, permits and requirements not otherwise indicated as provided by the Owner. Refer to Specification Section 00 72 00 General Conditions of the contract for fees that the Owner is responsible for;
- .7 the Bidder is a properly licensed Contractor according to the laws and regulations of the State of Minnesota and meets the qualifications indicated in the Procurement and Contracting Documents;
- .8 the Bidder has incorporated into the Bid adequate sums for work performed by installers whose qualifications meet those indicated in the Procurement and Contracting Documents.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)

Bid documents are distributed electronically

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded when the office receives notification from the Contractor holding a Contract with the Owner within the time limits identified in the Advertisement for Bid.

§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

§ 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least seven days prior to the date for receipt of Bids.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

§ 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least ten days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.4 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.3.6 Where the Contractor chooses to use an item approved by substitution request and other than the item identified in the Contract Documents (Drawings, Details and Specifications), the Contractor shall be responsible for any and all coordination and necessary changes in other work and shall bear the costs of such changes.

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)

Addenda is distributed electronically to all contacts on the current invited bidder list and to any others upon request.

§ 3.4.4.1 The Owner may elect to waive the requirement for acknowledging receipt of Addenda as follows:

- .1 Information received as part of the Bid indicates that the Bid, as submitted, reflects modifications to the Procurement and Contracting Documents included in an unacknowledged Addendum/Addenda.
- .2 Modifications to the Procurement and Contracting Documents in an unacknowledged Addendum/Addenda do not, in the opinion of the Owner, affect the Contract Sum or Contract Time.

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the bid form.

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal

affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

§ 4.1.9 Bids shall include sales and use taxes.

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security:
(Insert the form and amount of bid security.)

Certified Check or Bid Bond in the amount of five percent (5%) of the total bid.

§ 4.2.2 No bid will be considered unless it is accompanied by a Certified Check or Bid Bond in the amount of five percent (5%) of the total bid payable without condition to the Owner. Such Certified Check or Bid Bond shall be submitted with the express understanding that it shall be a guarantee that the Bidder will not withdraw his/her bid for a period of sixty (60) days after the date specified for receipt of bids, that the Bidder will enter into a formal Contract with the Owner; and that the Bidder will submit the required Performance, Labor and Material Payment Bonds and Certificates of Insurance as specified. In the event of withdrawal of the Bid by the Bidder, the Bidder will forfeit the full amount of the Bid Bond (Guarantee). All Certified Checks will be returned to the Bidders after the Owner and the successful Bidder have executed the Contract; and the executed Performance and Labor and Material Payment Bonds and Certificate of Insurance have been approved by the Owner.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.4 The Owner will have the right to retain the bid security of the three (3) lowest Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning Sixty-One (61) days after the opening of Bids, withdraw its Bid and request the return of its bid security. Upon request, the Bid Security of the other Bidders will be returned by the Owner after the Owner and successful Bidder have executed a Contract.

§ 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:

(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)

Paper copy of the bid, bid security and any other documents required enclosed in a sealed envelope, addressed/labeled per instructions and delivered to the Bid Opening site prior to the bid date/time.

§ 4.3.2 Paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

§ 4.4 Modification or Withdrawal of Bid

§ 4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder for a period of Sixty (60) days following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid. Prior to the date and time designated for receipt of Bids, and each Bidder so agrees in submitting a Bid. Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

§ 4.4.3 After the date and time designated for receipt of Bids, a Bidder who discovers that it made a clerical error in its Bid shall notify the Architect of such error within two days, or pursuant to a timeframe specified by the law of the jurisdiction where the Project is located, requesting withdrawal of its Bid. Upon providing evidence of such error to the reasonable satisfaction of the Architect, the Bid shall be withdrawn and not resubmitted. If a Bid is withdrawn pursuant to this Section 4.4.3, the bid security will be attended to as follows:

(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)

This will be handled at the Owner's discretion

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

§ 5.2 Rejection of Bids

Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted. Alternate offered by the Bidder and not listed on the Bid Form will not be considered, nor will they be a determining factor in the low Bidder.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

§ 6.2 Owner's Financial Capability

A Bidder to whom award of a Contract is under consideration may request in writing, fourteen days prior to the expiration of the time for withdrawal of Bids, that the Owner furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. The Owner shall then furnish such reasonable evidence to the Bidder no later than seven days prior to the expiration of the time for withdrawal of Bids. Unless such reasonable evidence is furnished within the allotted time, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

§ 6.3 Submittals

§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, submit in writing to the Owner through the Architect:

- .1 a designation of the Work to be performed with the Bidder's own forces;
- .2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and
- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 The Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 Refer to specification Section 00 72 00 General Conditions of the Contract for Construction for Bond Requirements.

§ 7.1.3 Intentionally omitted as it is not applicable.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.

(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:

.1 AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.2 Intentionally omitted as it is not applicable.

.3 AIA Document A232™–2019, General Conditions of the Contract for Construction, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.4 Building Information Modeling Exhibit, if completed:

.5 Drawings as issued in the Contract Documents dated

(Table deleted)

.6 Specifications as issued in the Contract Documents dated

(Table deleted)

.7 Addenda as issued prior to the Bid Date published in the Bidding Documents dated :

(Table deleted)

.8 Other Exhibits:

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

[N/A] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017.)

(Table deleted)

(Table deleted)

.9 Other documents listed below:

(List here any additional documents that are intended to form part of the Proposed Contract Documents.)

Exhibit C – Other Provisions to Standard Contractor Agreement

BID FORM

PROPOSAL BID FORM

BID TO: Kingsland Public Schools, ISD 2137
705 North Section Avenue
Spring Valley, MN 55975

BID FROM: _____

In accordance with the Advertisement for Bids and the proposed construction documents prepared by The Garland Company and dated 12/16/2024 relating to the construction of the Kingsland Public Schools 2025 Roofing Improvements, the undersigned, having visited the site of proposed construction and having become thoroughly familiar with local conditions affecting the cost and performance of the work and with all requirements of the Contract Documents and related Addenda, hereby proposes and agrees to provide all labor, materials and equipment required to construct and complete the Work in accordance with the Contract Documents and Addenda for the following amounts:

Base Bids

1. **Work Scope** _____
 - a. **The Bidder agrees to perform all work in the above listed Work Scope for the Base Bid Sum of:**

\$ _____

| |
|----|
| \$ |
|----|

UNIT PRICES:

Unit Price No. 1: Wet Insulation/Board Foot

\$ _____

| |
|----|
| \$ |
|----|

Unit Price No. 2: Drain Replacement/Unit

\$ _____

| |
|----|
| \$ |
|----|

Unit Price No. 3: Tectum Deck Replacement/SF

\$ _____

| |
|----|
| \$ |
|----|

Unit Price No. 4: Metal Deck Replacement/SF

\$ _____

| |
|----|
| \$ |
|----|

Alternates

Alternate No. 1: [Wall Panels/ Add Wall Panels (Red Dashed Line on Plans) as described in Specification Section 01 23 00 Alternates.

(Add, Deduct, No Change) \$ _____

| |
|----|
| \$ |
|----|

Alternate No. 2: [Wall Panels / Add Wall Panels (Green Dashed Line on Plans) described in Specification Section 01 23 00 Alternates.

(Add, Deduct, No Change) \$ _____

| |
|----|
| \$ |
|----|

Addenda: Receipt of the following Addenda to the Contract Documents and their costs being incorporated into the Bid is acknowledged (provide Addenda numbers below):

Addenda No. _____ Dated _____ Addenda No. _____ Dated _____

Addenda No. _____ Dated _____ Addenda No. _____ Dated _____

Responsible Contractor: By Submitting a bid for the above-named project, per Minnesota State Statute Chapter 16C.285 - RESPONSIBLE CONTRACTOR REQUIREMENT DEFINED, the undersigned is confirming that the Contractor meets the minimum criteria defining a Responsible Contractor as listed in Minnesota State Statute Chapter 16C.285 - RESPONSIBLE CONTRACTOR REQUIREMENT DEFINED. Subdivision 3. Minimum criteria.

Bid Acceptance: If written notice of the acceptance of this Bid is received by the undersigned within 60 days after date set for opening of this Bid, or at any other time thereafter before Bid is withdrawn, the undersigned agrees to enter into, and execute, a Contract with the Owner in accordance with this Bid as accepted. This shall be in a form acceptable to Owner, and contractor is to furnish and deliver to Owner the Performance Bond, Labor and Material Payment Bond, and proof of insurance coverage, all within 10 days after notice of acceptance of this Bid.

Street Address: _____

City: _____ State: _____ Zip: _____

Phone Number: _____ Fax Number: _____

Name (typed or printed): _____

Signature: _____

Title: _____

Date: _____

END OF SECTION 00 41 13

SECTION 00 50 00

LIST OF CONTRACT FORMS

1.01 GENERAL

- A. The following is a list of forms and standards applicable to this Project.

1.02 FORMS

- A. Bid Form: As bound in this Project Manual, section 00 41 13.
- B. Bid Bond Form: Standard AIA Document A-310 that complies with all state requirements. Submit with Bid with proper Power of Attorney certificate and acknowledgment.
- C. Contract Form: The Contract form will be AIA document A132-2019. See attached
- D. Performance/Payment Bond: Standard AIA Document A312 Performance Bond and Payment Bond, 1984 edition that complies with all state requirements. Submit in two copies, with proper Power of Attorney and acknowledgement upon execution of contract agreement with Owner.

END OF SECTION 00 50 00



AIA® Document A132® – 2019

Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

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)

Kingsland Public Schools – ISD #2137
705 North Section Avenue
Spring Valley, MN 55975

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

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

Kingsland Public Schools – 2025 Roofing Improvements
705 North Section Avenue
Spring Valley, MN 55975

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

ICS Consulting, LLC (ICS)
1331 Tyler Street N.E., Suite 101
Minneapolis, MN 55413

The Architect/Roofing Manufacture
(Name, legal status, address, and other information)

The Garland Company
3800 E. 91st Street
Cleveland, OH 44105

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.

This document is intended to be used in conjunction with AIA Documents A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser. AIA Document A232™–2019 is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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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 Modifications, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, or reasonably inferable by the Contractor as necessary to produce the results intended by the Contract Documents except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND DATES OF SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

The date of this Agreement.

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

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion of the Project or Portions Thereof

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the date of Substantial Completion of the Work of all of the Contractors for the Project will be:
(Insert the date of Substantial Completion of the Work of all Contractors for the Project.)

Owner requires project to be substantially complete by

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

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

§ 3.4 When the Work of this Contract, or any Portion Thereof, is Substantially Complete

§ 3.4.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall substantially complete the entire Work of this Contract:

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

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

By the following date:

§ 3.4.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work of this Contract are to be substantially complete prior to when the entire Work of this Contract shall be substantially complete, the Contractor shall substantially complete such portions by the following dates:

| Portion of Work | Date to be substantially complete |
|-----------------|-----------------------------------|
|-----------------|-----------------------------------|

§ 3.4.3 The Contractor acknowledges and recognizes that the Owner is entitled to full and beneficial occupancy and use of the completed Work following expiration of the Contract Time and that the Owner has entered into, or will enter into, binding agreements with third parties based upon the Contractor’s achieving Substantial Completion 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 within the Contract Time, the Owner will sustain extensive damages and serious loss as a result of such failure.

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 one of the following:

Stipulated Sum, in accordance with Section 4.2 below

§ 4.2 Stipulated Sum

§ 4.2.1 The Contract Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2.2 Alternates

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

| Item | Price |
|------|-------|
|------|-------|

§ 4.2.2.2 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 |
|------|-------|---------------------------|
|------|-------|---------------------------|

§ 4.2.3 Allowances, if any, included in the Contract Sum:

(Identify each allowance.)

Init.

Item

Price

§ 4.2.4 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)

§ 4.3 - 4.6 Intentionally omitted

(Paragraphs deleted)

(Table deleted)

(Paragraphs deleted)

(Table deleted)

(Paragraphs deleted)

(Table deleted)

(Paragraphs deleted)

(Table deleted)

(Paragraphs deleted)

(Table deleted)

(Paragraphs deleted)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Construction Manager by the Contractor, and Certificates for Payment issued by the Construction Manager and 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:

As set forth in § 5.1.3 of this Agreement

§ 5.1.3 Provided that an Application for Payment is received by the Construction Manager not later than the twenty-fifth day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the last day of the following month. If an Application for Payment is received by the Construction Manager after the application date fixed above, payment of the amount certified shall wait until the following months cycle for Payment.

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

§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum

§ 5.1.4.1 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 Construction Manager and Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.4.2 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.

§ 5.1.4.3 In accordance with AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

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

- .1 That portion of the Contract Sum properly allocable to completed Work;

Init.

- .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.

§ 5.1.4.3.2 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 Construction Manager or the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A232–2019;
- .3 For Work performed or defects discovered since the last payment application, any amount for which the Construction Manager or the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A232–2019; and
- .4 Retainage withheld pursuant to Section 5.1.7

(Paragraphs deleted)

§ 5.1.5-5.1.6 Intentionally omitted as N/A

(Paragraph deleted)

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to when the Work of this Contract is substantially complete, the Owner may withhold

(Paragraphs deleted)

retainage as set forth in AIA A232-2019.

§ 5.1.7.1.1 Intentionally omitted as N/A

§ 5.1.7.2 Intentionally omitted as N/A

§ 5.1.7.3 Intentionally omitted as N/A

§ 5.2 Final Payment

§ 5.2.1 Final Payment Where the Contract Sum is Based on a Stipulated Sum

§ 5.2.1.1 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 A232–2019, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect or the Construction Manager.

§ 5.2.1.2 The Owner's final payment to the Contractor shall be made no later than 60 days after the issuance of the final Certificate for Payment or Project Certificate for Payment, or as follows:

§ 5.2.2 Intentionally omitted as N/A

Init.

§ 5.2.2.1

(Paragraphs deleted)

Intentionally omitted as N/A

§ 5.2.2.2 Intentionally omitted as N/A

§ 5.3 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 Construction Manager will serve as Initial Decision Maker pursuant to Article 15 of AIA Document A232–2019, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A232–2019, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

[

[X] Litigation in a court of competent jurisdiction.

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 Where the Contract Sum is a Stipulated Sum

§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2019.

§ 7.1.1.1 If the Contract is terminated for the Owner’s convenience in accordance with Article 14 of AIA Document A232–2019, then the Owner shall pay the Contractor within seven (7) days payment for Work properly performed consistent with the Contract Documents prior to termination, reasonable reimbursable expenses incurred, and reasonable costs attributable to termination.

§ 7.1.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2019.

§ 7.2 Intentionally omitted as N/A

(Paragraphs deleted)

Init.

§ 7.3 Intentionally omitted as N/A

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Terms in this Agreement shall have the same meaning as those in AIA Document A232–2019, as amended for the Project, where reference is made in this Agreement to a provision of AIA Document A232–2019 or another Contract Document, the reference refers to that provision as amended, modified, deleted or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner’s representative:
(Name, address, email address, and other information)

Scott Klavetter, ISD #2137
Kingsland Public Schools
705 North Section Avenue
Spring Valley, MN 55975
507 346-7276

§ 8.3 The Contractor’s representative:
(Name, address, email address, and other information)

§ 8.4 Neither the Owner’s nor the Contractor’s representative shall be changed without ten days’ prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition, as amended for the Project.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition, as amended for the Project.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A232–2019, 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 Intentionally omitted as N/A

§ 8.8 The Owner and Contractor acknowledge that no representations, inducements, promises, or agreements, orally or otherwise, have been made by any party or by anyone acting on behalf of any party which are not embodied in this Agreement, and that any agreement, statement or promise that is not contained in this Agreement shall not be valid or binding on any party and shall not have any force or effect.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition, as amended for the Project
- .2 Intentionally omitted as N/A
- .3 AIA Document A232™–2019, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition, as amended for the Project
- .4 Intentionally omitted as N/A

.5 Drawings

| Number | Title | Date |
|-----------|-------|------|
| Exhibit A | | |

.6 Specifications

| Section | Title | Date | Pages |
|-----------|-------|------|-------|
| Exhibit B | | | |

.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:

(Paragraph deleted)

Exhibit C – Other Provisions to Standard Contractor Agreement

(Table deleted)

(Table deleted)

(Paragraph deleted)

.9 Other documents, if any, listed below:

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

OWNER *(Signature)*

Scott Klavetter

(Printed name and title)

CONTRACTOR *(Signature)*

(Printed name and title)

SECTION 00 72 00

GENERAL CONDITIONS

1.01 GENERAL

- A. The attached copy of AIA Document A232, General Conditions of the Contract for Construction, 2019 Edition, Articles 1 through 15, is hereby made a part of the Contract Documents and Specifications. The AIA Document A232 is the General Conditions between the Owner and Contractor. This document shall always be the most recent form unless otherwise noted by ICS to be a certain year or edition posted by the AIA.

END OF SECTION 00 72 00



AIA® Document A232® – 2019

General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

for the following PROJECT:

(Name, and location or address)

Kingsland Public Schools 2024 Bond Project

THE CONSTRUCTION MANAGER:

(Name, legal status, and address)

ICS Consulting, LLC (ICS)
1331 Tyler Street NE, Suite 101
Mpls, MN 55413

THE OWNER:

(Name, legal status, and address)

Kingsland Public Schools, ISD #2137
705 North Section Avenue
Spring Valley, MN 55975

THE ARCHITECT:

(Name, legal status, and address)

ADDITIONS AND DELETIONS:

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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. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of addenda relating to bidding or proposal requirements.

§ 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 the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of their duties.

§ 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.

§ 1.1.4 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 other Contractors, and by the Owner's own forces and Separate Contractors.

§ 1.1.5 Contractors. Contractors are persons or entities, other than the Contractor or Separate Contractors, who perform Work under contracts with the Owner that are administered by the Architect and Construction Manager.

§ 1.1.6 Separate Contractors. Separate Contractors are persons or entities who perform construction under separate contracts with the Owner not administered by the Architect and Construction Manager.

§ 1.1.7 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.

§ 1.1.8 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.

§ 1.1.9 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.

§ 1.1.10 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.

§ 1.1.11 All references to "Architect" shall mean "Architect/Engineer."

§ 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 unless it is specified that the Contract includes specific phases or elements to complete a certain part of the Work for reason of coordination or responsibility. Where the Specification has been divided into sections, it is for convenience in use. Unless otherwise specified, the scope of Work of each section shall be to furnish labor, materials, equipment, skill, erection, installation, services and related items for the phase of Work of that section, as required by the Drawings, as specified or as otherwise required to provide and complete the entire Work of the section.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 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.

§ 1.2.3 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. In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

1. Agreement
2. Change Orders and Supplementary Instructions
3. Addenda, with those of later date having precedence over those of earlier date
4. The Supplementary Conditions
5. The General Conditions of the Contract for Construction as modified
6. Drawings and Specifications

In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by Addendum, the better quality or greater quantity of Work shall be provided in accordance with the Initial Decision Maker's interpretation.

§ 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, or the Agreement, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the

copyright notice, 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, or as otherwise required in the Agreement and 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 Construction Manager and the Architect do 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

§ 2.2.1 Prior to commencement of the Work, and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, 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 in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. Unless otherwise provided under the Contract Documents, the Owner, assisted by the Construction Manager, shall secure and pay for the building permit.

§ 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.

§ 2.3.3 The Owner shall retain a construction manager adviser lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.4 If the employment of the Construction Manager or Architect terminates, the Owner shall employ a successor construction manager or architect to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.

§ 2.3.5 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.6 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.7 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3.8 The Owner shall forward all communications to the Contractor through the Construction Manager. Other communication shall be made as set forth in Section 4.2.6.

§ 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 three-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 review by the Construction Manager and prior approval of the Architect, and the Construction Manager or 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 Construction Manager's and Architect's and their respective consultants' 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 Construction Manager or Architect in their 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.

§ 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 this Agreement, 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 Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information submitted to the Construction Manager in such form as the Construction Manager and 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.

§ 3.2.3 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 Construction Manager and Architect any nonconformity discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and 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 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 unless the Contractor recognized such error, inconsistency, omission or difference and knowingly failed to report it to the Architect and Owner.

§ 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, the Construction Manager, and the Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Contractor shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 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 the Project already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 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, in consultation with the Construction Manager, and in accordance with a Change Order or Construction Change Directive. After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in Specification Section 01 60 00 Product Requirements.

§ 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. The Owner specifically reserves the right to reject any person the Owner deems unfit or unsuitable to be permitted on the Project Property. Upon written notice or verbal direction from the Owner or Construction Manager, the Contractor shall have all such persons removed from the Project. Obscene language, excessive noise, loitering, unauthorized use of kitchen facilities, smoking and possession, use or being under the influence of alcohol or a controlled substance, etc., will not be tolerated. The Contractor, its employees, subcontractors and suppliers are required to act in a professional and orderly manner when on and around the District property.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner, Construction Manager, 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 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 Construction Manager or 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. Warranty period shall be a minimum of "One Year" from the date of Substantial Completion.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof 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 Owner, assisted by the Construction Manager, shall secure and pay for the building permit. The Contractor shall secure and pay 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. The Contractor shall provide and pay for all bonds that may be required to accomplish the Work, including any bonds required by municipalities.

The Owner will pay any City Development Fees, Metropolitan Waste Control Commission (MWCC), Sewer Availability Charges (SAC), Water Availability Charges (WAC), and Electrical Utility Connection Charges.

The Owner has paid for the plan review fee; the Contractor is responsible to pay any remaining plan review fees and permit fees to the governing jurisdiction. The Owner will pay for the building permit fee. The Contractor is responsible for completing the permit application and coordinating the submission of the fee and permit application.

§ 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. . In any instance where requirements of the Contract Documents are in excess of but not in conflict with or violation of requirements of a public authority, the provisions of the Contract Document shall govern.

§ 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 all 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, Construction Manager, and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, 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, in consultation with the Construction Manager, 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, Construction Manager, and Contractor, stating the reasons. If the Owner or Contractor disputes the Architect's determination or recommendation, either 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, Construction Manager, 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 competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Communications shall be promptly confirmed in writing.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect, through the Construction Manager, of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Construction Manager may notify the Contractor, stating whether the Owner, the Construction Manager, or the Architect (1) has reasonable objection to the proposed superintendent or (2) require additional time for review. Failure of the Construction Manager 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, Construction Manager, 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.

§ 3.9.4 In the event that concerns and/or a pattern of failure arise with the superintendent's performance in carrying out their assigned duties as a representative of the Contractor, the Owner and Architect through the Construction Manager reserve the right to request that the superintendent be removed from the project and replaced with another qualified person. The proposed replacement superintendent is subject to review pursuant to the process outlined in § 3.9.2 prior to acceptance by the Owner and Architect.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information, a Contractor's construction schedule for the Work as required by Section 01 32 10 Project Schedule Requirements. 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, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Contractors, or the construction or operations of the Owner's own forces or Separate Contractors.

§ 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 Construction Manager's and Architect's approval as required by Section 01 32 10 Project Schedule Requirements. The Architect and Construction Manager'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 Construction Manager and 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 participate with other Contractors, the Construction Manager, and the Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager. The Contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project schedule.

§ 3.10.4 The Contractor shall promptly perform the Work in accordance with the most recent schedules submitted to the Owner, Construction Manager, and Architect, and incorporated into the approved Project schedule and in such sequence as to cause no delay in the Work or in the activities of other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall bear all costs and expenses for its delay in failing to meet schedules and milestones for the Project.

§ 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 Construction Manager, Architect, and Owner, and delivered to the Construction Manager 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 and Construction Manager is subject to the limitations of Sections 4.2.10 through 4.2.12. Informational submittals upon which the Construction Manager and Architect are 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 Construction Manager or Architect without action. Shop drawings submitted prior to issuance of the building permit solely at the Contractor's risk.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Construction Manager, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the Project submittal schedule approved by the Construction Manager and Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples, and similar submittals with related documents submitted by other Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner, Construction Manager, 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 reviewed by the Architect.

§ 3.12.8 The Work shall be in accordance with reviewed/accepted submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's review/acceptance of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Construction Manager and 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 reviewed/acceptance 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 Construction Manager and 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, the Architect, and the Construction Manager 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 accept 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. The Construction Manager shall review submittals for sequencing, constructability, and coordination impacts on other Contractors.

§ 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 Construction Manager and Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

§ 3.13.1 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.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the site.

§ 3.13.3 The Contractor's use of and operations on the site shall not interfere with the Owner's continued operation. The Contractors shall take care to exercise and use processes that avoid any impact on the Owner's ongoing operations.

§ 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, Separate Contractors, or of other Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner, Separate Contractors, or by other Contractors except with written consent of the Construction Manager, Owner, and such other Contractors or Separate Contractors. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Separate Contractors, other Contractors, or the Owner, 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, or Construction Manager with the Owner's approval, 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, Construction Manager, 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, Construction Manager, 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, Architect, or Construction Manager. 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 through the Construction Manager.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless the Owner, Construction Manager, Architect, Construction Manager's and 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, but only to the extent caused by the negligent, intentional or wrongful 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 that would otherwise exist as to a party or person described in this Section 3.18. The indemnification obligation herein shall survive termination, expiration or cancellation of the Contract. The Contractor shall at all times during the term of the Contract keep in force policies of insurance providing coverage for its indemnification obligation is this § 3.18.

§ 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 EQUAL OPPORTUNITY IN EMPLOYMENT

§ 3.19.1 The Contractor shall not discriminate against any employee or applicant for employment because of sex, creed, color, religion, national origin, marital status, status with respect to public assistance, disability, age, or sexual preference. The Contractor shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to the following: employment, upgrading, demotion or transfer, recruitment, recruitment advertising, layoff or termination, rates of pay or other form of compensation and selection for training, including apprenticeship. The Contractor shall incorporate these same equal opportunity, antidiscrimination and affirmative action requirements into all agreements between the Contractor and its Subcontractors.

§ 3.20 PROJECT MANAGER

§ 3.20.1 The Contractor shall employ a competent project manager who shall be present during all construction progress meetings. The project manager shall be responsible for providing accurate and up-to-date construction and submittal schedules at each construction progress meeting.

§ 3.20.2 When requested by the Owner or Architect, the project manager shall:

1. Assist in resolving scope conflicts between sub-contractors in a timely fashion to ensure project progress matches published construction schedule.
2. Have sub-contractors attend construction progress meetings.
3. Manage the resolution of issues that arise during the punch list/closeout/warranty period when the job superintendent is no longer on site.

§ 3.20.3 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed project manager. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed project manager or (2) that the Architect required additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

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

§ 3.20.5 In the event that concerns and/or a pattern of failure arise with the project manager's performance in carrying out their assigned duties as a representative of the Contractor, the Owner and Program Manager through the Construction Manager reserve the right to request that the project manager be removed from the project and replaced with another qualified person. The proposed replacement project manager is subject to review pursuant to the process outlined in paragraph 3.20.3 prior to acceptance by the Owner and Program Manager.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 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 and is referred to throughout the Contract Documents as if singular in number. The term "Architect" shall mean the Architect/Engineer or the authorized representative thereof.

§ 4.1.2 The Construction Manager is the person or entity retained by the Owner pursuant to Section 2.3.3 and identified as such in the Agreement.

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

§ 4.2 Administration of the Contract

§ 4.2.1 The Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the end of the warranty period which ends one (1) year from the date the Architect issues the final Certificate for Payment. The Construction Manager and 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. On the basis of the site visits, the Architect will keep the Owner and the Construction Manager reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner and Construction Manager known deviations from the Contract Documents and defects and deficiencies observed in the Work.

§ 4.2.3 The Construction Manager shall provide one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner and Architect reasonably informed of the progress of the Work, and will promptly report to the Owner and Architect known deviations from the Contract Documents and the most recent Project schedule, and defects and deficiencies observed in the Work.

§ 4.2.4 The Construction Manager will schedule and coordinate the activities of the Contractor and other Contractors in accordance with the latest approved Project schedule.

§ 4.2.5 The Construction Manager and 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, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of, or be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work.

§ 4.2.6 **Communications.** The Owner shall communicate with the Contractor and the Construction Manager's consultants through the Construction Manager about matters arising out of or relating to the Contract Documents. The Owner and Construction Manager 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 Construction Manager 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 other Contractors shall be through the Construction Manager. Communications by and with the Owner's own forces and Separate Contractors shall be through the Owner.

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9.

§ 4.2.8 The Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents, and will notify each other about the rejection. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, upon written authorization of the Owner, whether or not the Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 Intentionally Omitted

§ 4.2.10 The Construction Manager will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data, and Samples. Where there are other Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from the Contractor and other Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed and recommended them for approval. The Construction Manager's actions will be taken in accordance with a Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.11 The Architect will review and provide one of the following actions [Reviewed, Rejected, Review Comments, Revise and Resubmit] 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. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.12 Review of the Contractor's submittals by the Construction Manager and Architect 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 Construction Manager and 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 Construction Manager and 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.

§ 4.2.13 The Construction Manager will prepare Change Orders and Construction Change Directives.

§ 4.2.14 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7, and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.15 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples, and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

§ 4.2.16 The Construction Manager will assist the Architect in conducting inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.17 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 Construction Manager of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.18 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of the Construction Manager, Owner, or Contractor through the Construction

Manager. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.19 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 so rendered in good faith.

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

§ 4.2.21 The Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing, through the Construction Manager, to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request 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.

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 other Contractors or Separate Contractors or the subcontractors of other Contractors or Separate Contractors.

§ 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, as soon as practicable after award of the Contract, shall notify the Construction Manager, for review by the Owner, Construction Manager 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 Construction Manager may notify the Contractor whether the Owner, the Construction Manager or the Architect (1) has reasonable objection to any such proposed person or entity or, (2) requires additional time for review. Failure of the Construction Manager 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, Construction Manager 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 If the Owner, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required. No increase in the Subcontract Sum shall be allowed should a substitution be required as a result of the Contractor's reasonable objection based on specified criteria on which a proposed Subcontractor will be evaluated.

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

§ 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, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager 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 with Own Forces and to Award Other Contracts

§ 6.1.1 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 the Owner performs construction or operations with the Owner's own forces or Separate Contractors, the Owner shall provide for coordination of such forces and Separate Contractors with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 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's own forces, Separate Contractors, Construction Manager and other 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's own forces, Separate Contractors or other Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Construction Manager and Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor or other Contractors that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Construction Manager and 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 or other Contractors' 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 Contractors or other Contractors that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to a Separate Contractor or to other Contractors, because of the Contractor's delays, improperly timed activities 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, Separate Contractors, or other Contractors as provided in Section 10.2.5.

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

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, other 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 Construction Manager, with notice to 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, Construction Manager, Architect and Contractor. A Construction Change Directive requires agreement by the Owner, Construction Manager 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.

§ 7.1.4 For proposed changes in the Work on the lump sum or time and material methods under Clauses 7.3.1.1 and 7.3.3.4, the costs shall be determined as provided under this Subparagraph 7.1.4. The Contractor shall submit an itemized list of quantities with the applicable unit costs and extended price for each, in such form and detail as required by the Contractor.

§ 7.1.4.1 As a minimum the detailed breakdown shall include and indicate the items enumerated below. Items (a) and (b) constitute the cost of labor, and items (a), (b), (c) and (d) constitute the basic costs referred to under this Article 7.

(a) Labor costs, itemized by each trade involved, showing the hourly rates for each, and the hours required for the change. Labor rates shall be the same for extra and credit computations and shall be the actual rate paid workmen in accordance with established management labor agreement.

(b) Burden on labor, which shall be only the actual costs of mandatory fringe benefits required by established agreements, taxes on labor, workers or workmen's compensation, insurance on labor as affected by payroll,

unemployment taxes and insurance, including FICA and FUTA.

(c) Quantities of materials, equipment and supplies, at their actual cost, with unit costs indicated.

(d) The cost of subcontracted work, computed in the same way as provided for under this Subparagraph 7.1.4.

(e) Overhead, profit or commission.

(f) Applicable sales tax on materials, added after the above computations are complete.

§ 7.1.4.2 The maximum that will be allowed for overhead and profit, or commission, shall be as follows, expressed as a percentage of the basic cost of the change. The maximum allowable percentages for profit, overhead and commission may be less, depending on the nature, extent or complexity of the change, where the percentage is not commensurate with the responsibility and administration involved (such as the Contractor merely processing a substantial Change Order to a Sub-subcontractor) but in no event shall they exceed the following:

Overhead / Profit

1. To the Contractor and/or Subcontractor for work performed with their own forces –10%
2. To the Contractor for work performed by other than its own forces (i.e. their subcontractors) – 5%

§ 7.1.4.3 Not more than two percentages for overhead, profit and commission will be allowed. The mark-up on any part of the Work a Subcontractor contracts will be limited to the one overhead/profit figure, in addition to the Contractor's commission. The Subcontractor and Subcontract may divide the overhead and profit amount as they agree upon.

§ 7.1.4.4 The burden on labor may be indicated as a dollar/cents addition to the hourly rate or may be expressed as a percentage of the extended hourly rate costs.

§ 7.1.4.5 Material, equipment and supply costs shall be quoted at the actual cost to the Contractor or the Subcontractor. Upon request, the Contractor (or the Subcontractor) shall submit evidence to substantiate the costs. Said costs shall be quoted at trade discount prices, with quantity discounts also applied where the quantities warrant. Cash or prompt payment discounts need not be credited. In any proposal with material, equipment and supply credits, the credit shall be based on the actual Contract cost of the material (including trade and quantity discounts) less any charges actually incurred for handling or returning a material which has been delivered. No cancellation, restocking or similar charge will be allowed unless actually incurred by the purchaser and generally will not be allowed when the product has not been shipped.

§ 7.1.4.6 The percentages allowed for overhead, profit or commission under clause 7.1.4.2 shall be deemed to include, and no further addition allowed for : (1) field and office supervision and administration, including the field superintendent and foremen; (2) general insurance, except that listed as the labor burden; (3) use or replacement of tools; (4) shop burden; (5) equipment rental (other than specifically required additional hoisting equipment, required excavating equipment or similar equipment necessary solely as a result of the change); (6) engineering and estimating costs; (7) performance (guaranty) bond; (8) cost of safety measures (including those imposed by OSHA); (9) shipping, drayage and demurrage; (10) parking charges; (11) clean up and debris removal; (12) testing; (13) permits, unless a new permit type is required, (14) or any other costs except those enumerated under clause 7.1.4.

§ 7.1.4.7 Cost changes shall be computed by determining the basic costs enumerated under clause 7.1.4 (as further specified under this subparagraph), to which the overhead may be added, then the profit figure may be added and finally adding the sales tax on materials.

§ 7.1.4.8 Subcontractors shall compute their costs in the same way and are subject to the same conditions of what may be included in the cost and the same maximum percentages for overhead and profit. To the Subcontractor's price, the Contractor may add up to 5% commission.

§ 7.1.4.9 For changes involving Work of the Subcontractor with its own forces and Work by a Subcontractor, the commission shall be applied directly to the Subcontractor's price, with the overhead and profit figure applied only to

the Work the Subcontractor performs with its own forces.

§ 7.1.4.10 For changes involving both extra and credit amounts, the overhead and profit, or commission, shall be applied only to net difference where the extra exceeds the credit.

§ 7.1.4.11 For changes resulting in a credit in the basic costs, a reasonable allowance for overhead, profit or commission may be required to be credited to the Owner. In general, no credit for overhead, profit or commission will be required where the net change credit is minor or where the change in Work indicated it is reasonable that no credit be allowed to the Owner due to the effort, cost or responsibility of the Contractor. In the event of substantial subcontract credits, or for Work not performed by the Contractor, a reasonable overhead, profit or commission credit shall be allowed to the Owner.

§ 7.2 Change Orders

A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect, and Contractor, 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 Construction Manager and signed by the Owner, Construction Manager 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 Construction Manager 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 Construction Manager 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 Construction Manager and 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 Construction Manager 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.

§ 7.3.7 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 Construction Manager and 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 Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The 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 Construction Manager and 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 Construction Manager shall prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 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 Construction Manager 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 Construction Manager 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. By bidding and by executing the Agreement, the Contractor confirms that the contract duration is a reasonable period for performing the work. Any preliminary construction schedule, if provided, is for information purposes only and constitutes a proposed sequence of events based on standard practices. Contractor shall independently analyze all required activities and durations necessary to perform their own work and shall not rely on dates or duration suggested by the preliminary

construction schedule. The Contractor is responsible to provide the Construction Manager a detailed Construction Schedule of their work within fifteen (15) business days after the date of execution of the Contract and a Construction Progress Schedule that will be updated periodically to reflect progress.

§ 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. The Contractor agrees to increase manpower, increase work hours, and to increase equipment, necessary to maintain projected progress 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 an act or neglect of the Owner, Owner's own forces, Construction Manager, Architect, any of the other Multiple Prime Contractors or an employee of any of them, or by changes ordered in the Work, or by unavoidable labor disputes, unavoidable delay in deliveries, unavoidable casualties, fire, flood, epidemic, pandemic, disease, declared state of emergency by local, state or federal government, or other proven causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration, or by litigation, or by other proven causes that the Architect, based on the recommendation of the Construction Manager, determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine. No time extension shall be provided for any delay due to rain, wind, flood or any other natural phenomena of normal intensity for the locality where the Project is located.

§ 8.3.2 Time extension shall be the Contractor's sole remedy for all proven delays determined by the Architect under this Paragraph 8.3. This Paragraph 8.3 shall control and take precedence over any other conflicting provision in this Agreement.

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

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 Construction Manager, 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 Construction Manager and the Architect. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Construction Manager shall forward to the Architect the Contractor's schedule of values. Any changes to the schedule of values shall be submitted to the Construction Manager and supported by such data to substantiate its accuracy as the Construction Manager and the Architect may require, and unless objected to by the Construction Manager or the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment. If there are Multiple Prime Contractors responsible for performing different portions of the Project, the Construction Manager shall forward the Multiple Prime Contractors' schedules of values only if requested by the Architect.

§ 9.2.1 Projects with multiple sites or multiple phased projects, provided separate schedule of values for each building, phase or site.

§ 9.2.2 The schedule of values shall include the following line items with values calculated as follows:

§ 9.3 Applications for Payment

§ 9.3.1 At least fifteen days before the date established for each progress payment, the Contractor shall submit to the Construction Manager 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, Construction Manager or Architect require, such as copies of requisitions, and releases of waivers of lien from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 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 Construction Manager and 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.

§ 9.3.1.3 Until Substantial Completion, the Owner shall make progress payments in the amount of ninety-five percent (95%) of the amount due to the Contractor. The Owner, in making partial payments, will retain five percent (5%) of the duly approved value of the Work performed under the Contract as of the date of the Application for Payment until final completion and acceptance of all Work covered by the Contract. Upon Substantial Completion, the Owner may reduce the total amount retained to the amount remaining for total completion of the Project. The Owner must release all retainage no later than sixty (60) days after Substantial Completion unless excepted under Minn. Stat. §15.72 or applicable law. The Contractor shall pay all remaining retainage to its subcontractors no later than ten (10) days after receiving payment of retainage from the Owner unless excepted under Minn. Stat. §15.72 or applicable law. The Contractor will not be paid interest on retainage amounts, except as required by law. This retainage is in addition to any other retainage required by law.

§ 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.

§ 9.3.3 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 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's receipt of the Contractor's Application for Payment, review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Certificate for Payment, in the full amount of the Application for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager 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 Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there is more than one Contractor performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives all of the Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Contractor's application with information from similar applications for progress payments from the other Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.2.1 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either (1) issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager; or (2) issue to the Owner a Project Certificate for Payment for such amount as the Architect determines is properly due, and notify the Construction Manager 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 Project Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.3 The Construction Manager's certification of an Application for Payment or, in the case of more than one Contractor, a Project Application and Certificate for Payment, shall be based upon the Construction Manager's evaluation of the Work and the data in the Application or Applications for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager'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, or Contractors are, entitled to payment in the amount certified.

§ 9.4.4 The Architect's issuance of a Certificate for Payment or, in the case of more than one Contractor, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and data in the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation 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, or Contractors are, entitled to payment in the amount certified.

§ 9.4.5 The representations made pursuant to Sections 9.4.3 and 9.4.4 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 Construction Manager or Architect.

§ 9.4.6 The issuance of a Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or 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 Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for payment in whole or in part, to the extent reasonably necessary to protect the Owner. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.2. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or 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 or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the 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 or
- .6 repeated failure to carry out the Work in accordance with the Contract Documents.
- .7 failure to comply with government statutes, regulations and laws.

§ 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 or Construction Manager withholds certification for payment under Section 9.5.1, 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 Construction Manager, and both will reflect such payment on the next Certificate for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project 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 Construction Manager and 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. Pursuant to Minnesota Statute 471.425, subd. 4(a), if the prime contractor does not pay its subcontractor within seven (7) days the prime contractor shall pay that subcontractor statutory interest of 1½ percent per month or any part of a month on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more shall be \$10. For any unpaid balance less than \$100 the subcontractor shall be paid the actual penalty due. A subcontractor that prevails in a civil action to collect interest penalties from the prime contractor shall be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action.

§ 9.6.3 The Construction Manager 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 Owner, Construction Manager and Architect 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, Construction Manager 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. Issuance of a Certificate for Payment by the Architect, payment on the Contract Sum or in reducing any retaining amount, or any use or occupancy of the Work shall not relieve the Contractor of its the obligations under the Contract Documents,

including warranty of the Work. At any time the surety shall have the right to examine the status of the Work, as well as any payments.

§ 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 Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within fourteen days after the Construction Manager's 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 Construction Manager and Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner, Construction Manager 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 the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the list, the Architect, assisted by the Construction Manager, 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 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, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work of all of the Contractors, or designated portion thereof, is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute, 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. The payment shall be sufficient to increase the total payments to one hundred percent (100%) of the Contract Sum, less such amounts as the Owner and Architect shall determine for incomplete work and unsettled claims. The Owner has no obligation to make incremental retainage reductions after the initial determination for the incomplete work and unsettled claims.

§ 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 and Construction Manager shall jointly 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 after consultation with the Construction Manager.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, 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.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a notice that the Work is ready for final inspection and acceptance, and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager shall perform an inspection to confirm the completion of Work of the Contractor. The Construction Manager shall make recommendations to the Architect when the Work of all of the Contractors is ready for final inspection, and shall then forward the Contractors' notices and Application for Payment or Project Application for Payment, to the Architect, who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their 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 Construction Manager's and Architect's final Certificate for Payment or Project 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. If due to the Contractors' failure to finally complete the Work, the Construction Manager has to make more than 2 inspections for final completion, then the Contractor shall reimburse the Owner/Construction Manager for any costs incurred as a result of the additional inspections.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (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 Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and 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 through the Construction Manager 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.

§ 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.

§ 9.10.6 Before final payment is made, a certification of satisfaction, Minnesota Tax Form 134, from the State Commissioner of Taxation must be furnished by the Contractor and all Subcontractors in accordance with Minnesota State Law including certification of satisfaction of state withholding taxes paid.

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. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager.

§ 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;
- .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; and
- .4 construction or operations by the Owner, Separate Contractors, or other Contractors.

§ 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, 10.2.1.3 and 10.2.1.4 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, 10.2.1.3 and 10.2.1.4. 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, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault, acts, omissions 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, Construction Manager and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site, or adjacent 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.

§ 10.3 Hazardous Materials

§ 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, Construction Manager 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, Construction Manager 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, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager 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, Construction Manager, Architect, their 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 and each Subcontractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- 1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- 2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- 3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- 4 Claims for damages insured by usual personal injury liability coverage; which are sustained (1) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor, or (2) by another person;
- 5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- 6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- 7 Claims for bodily injury or property damage arising out of completed operations; and
- 8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.
- 9 Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:
 1. Premises Operations (including X, C, and U coverages as applicable).
 2. Independent Contractors' Protective.
 3. Products and Completed Operations.
 4. Personal Injury Liability with Employment Exclusion deleted, or Employment Practices Liability.

5. Contractual – including specified provision for Contractor’s obligations under Paragraph 3.18.
6. Owned, non-owner and hired motor vehicles.
7. Broad Form Property Damage including Completion Operations.
8. Umbrella Excess Liability.

.10 A General Liability or Umbrella Liability Policy on a claims-made basis will not be accepted.

.11 The insurance required by subparagraph 11.1.1 shall include an Indemnification clause for Commercial General Liability and Worker’s Compensation coverages.

The insurance required by Subparagraph 11.1.1 shall be written for not less than the following, or greater if required by law:

(1). Workers’ Compensation

a. State: Statutory

b. Voluntary Compensation (by exempt entities): Same as State Workers’ Compensation

c. Applicable Federal (e.g., Longshoremen, harbor work, Work at or outside U.S. Boundaries): Statutory

d. Maritime:

Not applicable

e. Employer’s Liability:

\$ 500,000 Each accident

\$ 500,000 Disease, Policy Limit

\$ 500,000 Disease, Each Employee;

f. Benefits required by union labor contracts: As applicable.

(2). General Liability (including Premises-Operations; Independent Contractor’s Protective; Products and Completed Operations; Broad Form Property Damage):

a. Bodily and Property Damage (Combined Single Limit):

\$1,000,000 Each Occurrence

\$2,000,000 Aggregate

b. Products and Completed Operations Insurance shall be maintained for a minimum period of one year after final payment and the Contractor shall continue to provide evidence of such coverage to the Owner on an annual basis during the aforementioned period.

c. Property Damage Liability shall include coverage for the following hazards:

X (Explosion)

C (Collapse)

U (Underground)

d. Contractual Liability (Hold Harmless Coverage):

Bodily and Property Damage (Combined Single Limit):

\$1,000,000 Each Occurrence

\$2,000,000 Aggregate

e. Personal Injury (with Employment Exclusion deleted, if applicable):

\$1,000,000 Each Occurrence.

(3). Umbrella Excess Liability:

\$5,000,000 Over Primary Insurance

\$10,000 Retention

(4). Automobile Liability (owned, non-owned, hired):

Bodily and Property Damage (Combined Single Limit):

\$1,000,000 Each Occurrence

If this insurance is written on the Comprehensive General Liability policy form, the Certificates shall be AIA Document G705, Certificate of Insurance or equivalent. If this insurance is written on a Commercial General Liability policy form, ACORD Form 25S or equivalent will be acceptable. The Owner, Construction Manager and Architect shall be added as an additional named insureds on the Contractor's liability policy in force for the Project, and endorsements shall be issued and provided to Owner reflecting such coverage.

Certificates of insurance acceptable to the Owner shall be submitted to the Construction Manager for transmittal to the Owner with a copy to the Architect prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by this Agreement and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness.

The Contractor shall cause the commercial liability coverage required by the Contract Documents to include the Construction Manager, the Construction Manager's consultants, 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.

§ 11.1.2 The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to 100 percent of the Contract Sum and furnished on AIA A312 Performance Bond and AIA A312 Payment Bond forms or equivalent. The bonds shall comply with all applicable laws, rules, regulations and industry standards. The Contractor shall deliver the required bonds to the Owner not later than three (3) days following the date the Agreement is entered into, or if the Work is to be commenced in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished. 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 the power of attorney. Duly executed, notarized and updated Acknowledgements of both the Principal and Surety and the Surety's Power of Attorney must be attached to each of the two required bonds.

§ 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 three (3) 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 directly to the Owner, and separately to the Construction Manager, 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.

§ 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 both the Contractor and the Construction Manager, separately and 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 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 directly to the Contractor, and separately to the Construction Manager, 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 Owner's Property Insurance

§ 11.3.1 The Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 0.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project. The Contractor will be responsible for \$10,000.00 deductible for any claims made.

(Paragraph deleted)

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for the Architect's, Contractor's, and Construction Manager's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.3 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.4 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.1.5 **Boiler and Machinery Insurance.** The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Construction Manager, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.1.7 **Loss of Use Insurance.** The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 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, Architect, and Construction Manager 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 Construction Manager, Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Construction Manager, 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.

§ 11.6 Waivers of Subrogation

§ 11.6.1 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 Construction Manager and Construction Manager's consultants; (3) the Architect and Architect's consultants; (4) other Contractors and any of their

subcontractors, sub-subcontractors, agents, and employees; and (5) 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 Construction Manager, Construction Manager's consultants, Architect, Architect's consultants, other Contractors, 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.

§ 11.6.2 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.

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 Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their 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 Construction Manager or Architect has not specifically requested to examine prior to its being covered, the Construction Manager or 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 perform all Work under the Agreement and shall promptly correct Work rejected by the Construction Manager or 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 the Work not performed by Contractor, and costs of correcting rejected Work, including required and additional testing and inspections, the cost of uncovering and replacement, and compensation for the Construction Manager's and 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 or Architect to do so, unless the Owner or Architect has previously given the Contractor a written acceptance of such condition. The Owner or Architect shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner or Architect 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, Construction Manager or Architect, the Owner may correct it in accordance with Section 2.5.

§ 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, but shall be extended with respect to portions of incomplete or defective Work noted on the Certificate of Substantial Completion.

§ 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. The Contractor shall bear the cost of any Work not performed or improperly performed by the Contractor.

§ 12.2.4 The Contractor shall bear the cost of correcting or addressing destroyed or damaged construction of the Owner, Separate Contractors, or other 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, or the Contractor's failure to properly perform the Work.

§ 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.

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.

§ 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, Construction Manager, 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 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 Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Construction Manager and 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 Construction Manager, 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 Construction Manager and 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 Construction Manager and Architect of when and where tests and inspections are to be made so that the Construction Manager and 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 Construction Manager's and 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 Construction Manager for transmittal to the Architect.

§ 13.4.5 If the Construction Manager or Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Construction Manager or 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.

§ 13.6 Notice Pursuant to Minnesota Statute 13.05

(a) If a government entity enters into a contract with a private person to perform any of its functions, all of the data created, collected, received, stored, used, maintained, or disseminated by the private person in performing those functions is subject to the requirements of this chapter and the private person must comply with those requirements as if it were a government entity. All contracts entered into by a government entity must include a notice that the requirements of this subdivision apply to the contract. Failure to include the notice in the contract does not invalidate the application of this subdivision. The remedies in section 13.08 apply to the private person under this subdivision.

(b) This subdivision does not create a duty on the part of the private person to provide access to public data to the public if the public data are available from the government entity, except as required by the terms of the contract.

§ 13.7 Notice Pursuant to Minnesota Statutes, Section 16C.05

The books, records, documents, and accounting procedures and practices of ICS that are relevant to the Contract are subject to examination by the Owner and either the legislative auditor or the state auditor, as appropriate, for a

minimum of six years. If the Owner requests that the state auditor examine the books, records, documents, and accounting procedures and practices of the Construction Manager, the Owner shall be liable for the cost of the examination.

§ 13.8 Notice Pursuant to Minnesota Statutes, Section 181.59.

Contractual agreement(s) between the Owner and any Contractor performing work on a Project shall contain provisions by which the Contractor agrees:

- (1) that, in the hiring of common or skilled labor for the performance of any work under any contract, or any subcontract, no contractor, material supplier, or vendor, shall, by reason of race, creed, or color, discriminate against the person or persons who are citizens of the United States or resident aliens who are qualified and available to perform the work to which the employment relates;
- (2) that no contractor, material supplier, or vendor, shall, in any manner, discriminate against, or intimidate, or prevent the employment of any person or persons identified in clause (1) of this section, or on being hired, prevent, or conspire to prevent, the person or persons from the performance of work under any contract on account of race, creed, or color;
- (3) that a violation of this section is a misdemeanor; and
- (4) that this contract may be canceled or terminated by the state, county, city, town, school board, or any other person authorized to grant the contracts for employment, and all money due, or to become due under the contract, may be forfeited for a second or any subsequent violation of the terms or conditions of this contract.

§ 13.9 Prompt Payment

The Contractor and all Subcontractors and Sub-Subcontractors shall comply with the Minnesota Prompt Payment Act, Minn. Stat. § 471.425.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Construction Manager has not certified or the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees, or any other persons performing portions of the

Work 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, the Contractor may, upon seven additional days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 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 substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, after consultation with the Construction Manager, 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 unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall, upon application, be certified by the Initial Decision Maker after consultation with the Construction Manager, and this obligation for payment shall survive termination of the Contract.

§ 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 the 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.
(Paragraphs deleted)

§ 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 Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of

Subcontracts; the termination fee, if any, set forth in the Agreement along with reasonable overhead and profit on the Work not executed.

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.

§ 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, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 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 Construction Manager and 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.

§ 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.

§ 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 waives Claims against the Owner for consequential damages arising out of or relating to this

(Paragraphs deleted)

Contract including but not limited to 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.

§ 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 Construction Manager will serve as the Initial Decision Maker. 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, the Construction Manager, 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 of 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 privately administered by a mediator mutually selected by the parties within ten (10) days after the demand for mediation demand is received by the other party to the Contract. If the parties cannot not agree on a mediator with this 10 day period the court in the jurisdiction of their Project location shall select a mediator for the parties. A request for mediation shall be made in writing- and, 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.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 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.

(Paragraphs deleted)

SECTION 00 91 00

ADDENDA

The Construction Manager/Architect/Engineer may prepare and issue Addenda during the bidding period as necessary to interpret or clarify the bidding documents, to list approved substitutions of materials or systems, or to change the date and/or time for receipt of bids.

Addenda will refer bidders to the affected drawings or section of the project manual and describe the modification, clarification, or correction in writing or by means of supplemental drawings if necessary.

Addenda will be serially numbered and dated, identifying the Project, Owner, Construction Manager, Architect and Engineer(s).

Addenda will be distributed electronically, by email, or mail to all known bidders at the address furnished by them when bidding documents were obtained. Copies of the Addenda will be distributed at the same time to all parties recorded as having bidding documents on file.

Bidders shall not rely on oral instructions made to bidders by any officer, agent, or employee of the Owner, Construction Manager, Architect or Engineer(s).

END OF SECTION 00 91 00

SECTION 01 11 00

SUMMARY OF WORK

PART 1: GENERAL

1.01 CONDITIONS OF THE CONTRACT

- A. The Conditions of the Contract (General, Supplemental General Conditions or other Conditions) and the General Requirement Sections of Divisions 00-01 are hereby made part of this Section.

1.02 PROJECT SCOPE

- A. All work furnished under this Project Manual shall be installed at the following location in accordance with the Contract Documents:
 - 1. At: Kingsland Public Schools ISD 2137
705 North Section Avenue
Spring Valley, MN 55975
 - 2. For: Kingsland Public Schools 2025 Roofing Improvements
- B. The provisions of the General Conditions, Supplemental General Conditions, and Divisions 00-01, Procurement and Contracting Requirements and General Requirements, shall apply to all work of the Contract.
- C. The Scope of Work for the Prime Contractors includes all work required for complete construction of their Work Scope in accordance with the Summary of Work.

- D. Construction Contract: Construction for this project will be accomplished under Multiple Prime Contracts as described in Document 00 11 13 - Advertisement for Bids.

1.03 RESPONSIBILITY OF THE CONTRACTOR

- A. The Contractor shall be responsible for the scheduling and general management of the work of the project and for the acts and omissions of all of their employees; all subcontractors, their agents and employees; and all other persons performing any of the work under a contract with the Contractor.
- B. The Contractor will have supervision on site full time during the duration of the project for their respective scope of work. The Supervisor must be on site while all work is in process.
- C. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work.
- D. The Contractor shall supervise and direct the work, using their best skills and attention. They shall be solely responsible for all construction means, methods, techniques and procedures and for coordination of all portions of the work under this Contract.
- E. The Contractor shall accept the project as it exists. All existing conditions, whether or not specifically noted on the Contract Documents, shall be verified by the Contractor in-person prior to the start of work.
- F. The Contractor shall not proceed with any items of the work, which are reasonably questionable without consulting the Construction Manager.
- G. Contractor's questions regarding this project must be directed to the Construction Manager. The Owner's employees are not authorized to make decisions or give direction regarding any aspect of this project. Consult ICS employees involved on the project only. You can find these people on Procore in the directory.
- H. Construction Limits: Except as specifically indicated or as may be necessary to complete the work under the Contract, activities of the Contract shall be limited to within the limits designated on the drawings.

1.04 USE OF BUILDING BY OWNER

- A. Owner reserves the right to let other contracts in connection with this Project or in connection with existing buildings. Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and execution of their work, and shall properly connect and coordinate his work with theirs.

- B. Owner reserves the right to jointly occupy the premises with the Contractor in the performance of his duties and functions. The Owner also reserves the rights to: enter into the Project and premises at all times; make installations of materials and equipment at appropriate times as the Work progresses; and install equipment, furniture, and furnishings when spaces are at appropriate stages of completion. Contractor shall coordinate work with the Owner and cooperate with the Owner to minimize undue interferences.

- C. If any part, unit, phase, or the entire Project is substantially complete or ready for occupancy, the Owner may, upon notice to the Contractor, enter into and make use of the Work that is substantially complete.

1.05 CONTRACTOR'S USE OF PREMISES

- A. General: During the construction period, the Contractor shall have full use of the premises for construction operations, including use of the site as shown in the project plans. The Contractor's use of the premises is limited only by the Owner's right to perform construction operations with its own forces or to employ separate contractors on portions of the project.
 - 1. Confine operations to areas within Contract limits indicated. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.

 - 2. Keep driveways and entrances serving the premises clear and available to the Owner at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.

- B. Site Protection: Protect existing trees and other plantings which are not to be removed and all features of adjacent buildings, paved surfaces which are to remain and are susceptible to damage from ordinary operations of the Contractor, trucking or other activity.

Provide

appropriate safety signage and barricades to keep unauthorized person(s) out of the project area.

- C. Restoration: All improvements on or about the site and adjacent property which are not shown to be altered, removed or otherwise changed, and which have been damaged or disturbed by any work or operations under this contract, shall be restored to the conditions which existed previous to starting work. All existing buildings, structures, or other features shall be protected from damage by any operation in connection with the Project. The Contractor shall replace or repair, at their own expense (and to the satisfaction of the Owner), all damage to existing buildings, sidewalks, curbs, drives, fencing, lawns, plants, trees, shrubbery and other property resulting from work of this Contract, from whatever cause.

- D. Interior Protection: The contractor/ Work Scope () is responsible to protect existing facility and components/ materials. Flooring shown not to be removed must be covered with poly and high traffic areas should be covered with poly and Masonite to protect the existing flooring. The flooring protection must be monitored and corrected if showing signs of deterioration. If damage occurs, that contractor will be responsible to clean and if that is not sufficient it will be replaced by the contractor at their expense. Contractor is to cover owner items with poly while construction activity is taking place in that room, ie; book shelves, desks, etc. When working in a clean room, ie; computer lab or data closet, contractor is to maintain cooling, and dust free environment as to not damage equipment, Temporary enclosures may be needed to protect equipment.

1.06 CONSTRUCTION SCHEDULE

- A. Scheduling of Work and Time of Completion is an essential condition of this Contract.

- B. All Work shall be completed as follows:
 - a. Work under this Bid Package will commence within five (5) days of Notice to Proceed for submittals and work on site will begin no later then June 2, 2025.
 - b. Substantial Completion: August 15, 2025
 - b. Final Completion: August 29, 2025

1.07 MEASUREMENTS

- A. All Contractors shall be responsible for all measurements, layout work, and quantity and quality of materials. They shall also be required to employ craftsmen skilled in their trade. All work shall be completed in conformance to specifications/plans as well as prevailing codes and standard construction practices.

- B. All Contractors shall verify measurements and layout all work from dimensions given on Drawings; and shall be responsible for the corrections of all measurements, and shall verify all grades, lines, levels, elevations and dimensions shown on the drawings. Contractors shall take measurements and verify dimensions of existing work, if any, that affect their work or to which their work is to be fitted. Report any errors or inconsistencies to the Construction Manager/Engineer/Architect prior to commencing work.

1.08 PROJECT MEETINGS

- A. Prior to commencement of construction, a pre-construction meeting will be conducted with representatives of the Owner/Construction Manager/Engineer/Architect and the Contractor including their principal subcontractors, for the purpose of coordination and construction scheduling. Any known conflicts, organizational issues, or specific delays should be brought up here before construction begins and at progress meetings as needed.

- B. Regular progress meetings shall be conducted at the project site with representatives of the Owner/Construction Manager/Engineer/Architect and the Contractor including their principal subcontractors. The agenda will be to review timely submittals, items of significance that could affect progress, progress since the last meeting and determine where each activity is in relation to the Contractor's Construction Schedule. Meeting Minutes will be taken and distributed by the Construction Manager. All logs, progress updates or percentages of work done will be maintained by the Contractor and be submitted to the Construction Manager each week.

1.09 CLEAN UP AND FINAL CLEANING

- A. The Contractors at all times shall keep the premises free from accumulation of waste materials or rubbish caused by their operations, employees, and keep areas clean and free from fire hazards. The Contractors shall be responsible for the removal and hauling of all of

their debris, cartons, crates and surplus materials, maintaining their work neat and orderly throughout the construction period, as well as the cleaning of all their work and equipment. The Owner's waste containers are not to be used.

- B. The Owner will be performing routine cleaning of the facility and furniture starting on the Monday following the substantial completion dates. Any work that would take place after the substantial completion date will be the responsibility of the Contractor to perform an additional Final Cleaning in those areas.

END OF SECTION 01 11 00

SECTION 01 12 00

GENERAL WORK SCOPE REQUIREMENTS

PART 1 GENERAL

1.01 CONTRACT REQUIREMENTS APPLICABLE TO ALL WORK SCOPES

- A. **Comprehensive Scope of Work:** Provide labor, material, and equipment necessary to properly execute the work of this Work Scope in accordance with Contract Documents and specifically the specifications sections listed herein.
1. Contract Documents are complimentary and what is required by one shall be as binding as if required by all. i.e., bi-weekly site clean-up from all contractors of work areas.
 2. Each contractor is responsible for the general, civil, structural, architectural, mechanical, and electrical notes as they relate to your Work.
 3. It is the intent of this Work Scope and responsibility for this contractor to provide a complete operational assembly/system, unless specifically indicated below.
 4. Review the entire project so that proceeding, concurrent, and succeeding work of other contractors can proceed without harm to the Project as a whole.
 5. Each contractor is required to coordinate their work with other contractors, as directed by the Construction Manager, without additional compensation.
 6. By submitting your Proposal/Bid, each contractor acknowledges they have reviewed all appropriate contract documents, including previously issued documents and have anticipated, based on information provided or available, impact of future Work as it affects their Work Scope Category.
- B. **Contract Scope and Assigned Responsibilities:** Refer to individual Work Scope descriptions for additional requirements.
1. Anything contained in the Contract Documents designated as "by General Contractor", "Contractor", or similar terms, shall be by the Contractor performing the same work as so designated by the work scope delineation.
 2. Work Scopes do not delineate jurisdictional portions of work. In case a jurisdictional dispute arises, the contractor shall be responsible for any associated cost of the "Claimed" work.
- C. **Clarification:** The Specifications are written in imperative and abbreviated form.
1. It shall be clearly understood that all imperative statements are directed at the subcontractor responsible for that portion of the Work, unless specifically indicated otherwise.

2. Incomplete sentences shall be completed by inserting “shall”, “contractor shall”, and similar mandatory phrases by inference in the same manner as they are applied to notes on Drawings.
3. The words “shall be” shall be supplied by inference where a colon is used within sentence or phrases.
4. Where stated “Provide” in Work Scopes. Provide equals furnish and install.
5. Each Contractor is responsible for the protection of their work.
6. Temporary Enclosures of Window and Door Openings will be completed as outlined in Section 01 50 00.
7. Fire Extinguishers and Appropriate Signage will be supplied as per Section 01 50 00.

D. Interpretations or Corrections of Contract Documents: Carefully study and compare Documents with each other and with other work being performed concurrently or presently under construction to the extent that it relates to the Work for which this Contract is awarded. Contractor shall examine the site and local conditions and shall at once report to the Construction Manager inconsistencies or ambiguities discovered or requirements not understood.

1. Using Request for Information (RFI) on the web-based project management platform (Procore, as provided by ICS), contractors shall submit to ICS Request for Information prior to performing work in question.
2. Responses provided to an RFI by Owner, Architect or Construction Manger are intended to be clarifications only and are not an authorization for a Contract Time extension or an increase in the Contract Amount.
3. If the contractor believes the response is a change in either Contract Time or Contract Amount, contractor shall comply with requirements of the Owner/Contractor Agreement.
4. Request for Information (RFI's) agreed to by Owner and ICS that change either the Contract Time or Contract Amount will be included in an appropriate Change Order prior to performing work in question.

E. Conflicts and Duplication in Work: In the case of a duplication of scope responsibility either on Drawings, Specification, or Work Scope Descriptions, Contractor is responsible to bid the work as called out regardless of potential oversight duplications.

1. In the case of duplication, the Construction Manager will make the final decision as to which Work Scope will do the work and the appropriate cost adjustment will be made.

1.02 SCOPE CLARIFICATIONS APPLICABLE TO ALL WORK SCOPE CATEGORIES

A. Special Coordination and Scheduling Required: Contractor acknowledges that the performance of this Work Scope must be closely interfaced with the performance of others and that multiple mobilizations will be required.

1. It is understood that punctuality and compliance with agreed-upon deliveries is of the essence on the Project.
2. Comply with Project Schedule and ensure preparatory work of other trades are erected first or carried forward simultaneously where installation sequence requires it.

3. Provide reasonable notice of your intentions to those affected, and if other contractors, after such reasonable notice, fail to have their work in readiness, ICS shall be consulted, and their directions followed.
4. Where indicated or required to maintain Project Schedule or to accommodate Owner's on-going operations, provide required "after-hours" shift work to maintain Project Schedule. It is the contractor's responsibility to properly staff and accommodate where necessary to maintain the schedule.

B. Submittal and Fabrication Time Requirements: In accordance with Part 1 of individual specification section requiring Submittals and Division 1 requirements: coordinate, prepare, and submit a complete package of design submittals in accordance with the Project Schedule and requirements of the Subcontract Agreement.

1. Schedule Requirements for Design Submittals: Durations will be mutually agreed to between the Construction Manager, Architect and this contractor for the task identified herein and will be specifically listed within the Agreement.
 - a. Preparation of Design Submittals.
 - b. Fabrication and Delivery Time.
 - c. Duration of On-Site Installation.
2. For items requiring "design submittals" prepare submittals for review and acceptance by the A/E to comply with the milestone dates outlined within the Project Schedule and Agreement.
3. For items NOT requiring "design submittals" and upon return of approved submittals for those items requiring submittals, fabricate and deliver items to Site to comply with Project Schedule and Agreement.

C. Document Management and Control Procedures: Ensure on-site contractor's personnel have current contract documents, including, but not limited to: Specifications, Drawings and clarifications (RFI's and ASI's) and other modifications (PR's and field orders) affecting the Work.

1. Contractor is responsible to copy and distribute (at their cost) sufficient copies of documents to contractor's personnel, vendors, and suppliers.
2. Ensure field personnel are familiar with requirements of Contract Documents.
3. Contractor to have an established document control procedure to ensure compliance.

D. Field Engineering and Layout: Refer to individual Work Scope Descriptions for layout requirements.

1. The Construction Manager will provide control points.

- E. **Coordinate Layout and Clearances:** Coordinate space requirements and installation for items that are indicated diagrammatically on Documents.
1. Follow routing indicated for pipes, ducts and wiring, place runs parallel with line of building. In finished areas, unless expressly indicated otherwise, conceal pipes, ducts and wiring within construction. Coordinate locations of plumbing and electrical fixtures and electrical outlets with finish elements.
 2. Use space efficiently to maximize accessibility for other installations, maintenance, and repairs.
 3. Installing entities shall modify their installations, if needed, to eliminate conflicts and achieve effective coordination of systems and work.
 4. Contractor's failure to exercise coordination responsibilities constitutes a waiver of claims for an increase in Contract Sum if design modifications are required to resolve conflicts that might have been avoided by complying with requirements of this Section and the overall provided schedule.
- F. **Field Verification of Existing Conditions and Substrates:** Inspect existing conditions and substrates to receive work prior to installation, field verify dimensions that will affect the layout or performance of your work, and confirm preparatory work is complete and acceptable to receive work of this Work Scope.
- G. **Professional Errors and Omission Insurance Requirements:** Where Work Scope Categories included requirements for "Delegated Design", "third party engineering", "Signed Shop Drawings by licensed engineer", or "submission of design calculations" as part of the individual specification sections or structural notes, refer to Insurance Requirements in the General Conditions for additional requirements.
- H. **Construction Cleaning:** Each Work Scope is responsible for clean-up of debris, rubbish and other similar items resulting from their operations on a daily basis. All contractors are required to do a weekly or Bi-weekly clean up, along side any standard cleaning responsibilities.
1. Refer to individual Work Scope for additional requirements regarding cleanup.

1.03 MATERIAL HANDLING AND STORAGE

- A. **Delivery and Receiving of Materials:** Provide labor and equipment necessary to receive materials, unload, inspect, sort, and distribute materials to individual work areas. Store materials in an organized manner as not to obstruct other trades and the normal day-to-day operation of this project.
1. Coordinate storage areas with the Construction Manager.
 2. Schedule deliveries to minimize onsite storage and coordinate with all trades.

3. Provide flagmen for operation in contact with public traffic for deliveries.
- B. **Hoisting:** Provide hoisting equipment, labor, means and operations to complete your Work Scope.
 - C. **Scaffolding:** Each Work Scope is responsible for your own working platforms, scaffolding, and equipment necessary to access Work. Coordinate scope and timing with all trades.
 - D. **Protection of Adjacent Work:** Each subcontractor shall provide necessary protection of roof and adjacent surfaces during the production of this work.
 1. Interior scaffolding and carts must be utilized with rubber, locking wheels.

1.04 WORK RESTRICTIONS

- A. **Contractor's Field Offices:** As directed by the Construction Manager and owner.
- B. **Construction Staging Area:** As directed by the Construction Manager and owner.
- C. **Construction Parking:** As directed by the Construction Manager and owner.
- D. **Egress and Access Routes:** Do not obstruct existing access and egress from adjacent Site areas or portions of existing facilities which remain operational throughout Construction Period.
 1. Move stored products that interfere with operations of Owner.
 2. Obtain and pay for use of additional storage or work areas needed for operations.
 3. Keep a path for emergency services to access remaining operational facilities and the site.
 4. Do not store materials on existing roof areas.
- E. **Limit activities to Construction Limits:** Notify the Construction Manager if Work activities require work outside Construction Limits. Contractor will coordinate activities with the Construction Manager.

- F. **Work in Occupied Areas:** Work in occupied areas of the facility must be coordinated with the Construction Manager and Owner.

- G. **Hot Work Permits:** Work activities using and causing sparks and open flame must be coordinated with the Construction Manager and the Owner and special procedures shall be complied with as directed by the Construction Manager and Owner.

- H. **Working Hours:** Conduct Work during normal working hours unless expressly agreed to by the Construction Manager and their Representative.

- I. **Tobacco Free Site:** Project Site is a “tobacco free” zone; there is absolutely no smoking, or use of tobacco products of any kind. Tobacco products are prohibited on the Owner’s Property as required by State Law.

- J. **Noise Restrictions:** Maintain a level of conduct and decorum consistent with the environment in which the Work is being performed.

END OF SECTION 01 12 00

SECTION 01 13 00
LIST OF WORK SCOPES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Summary of Work Scope packages currently being bid.

1.02 WORK SCOPE BEING BID IN THIS PACKAGE

A. Local custom and trade union jurisdictional settlements do not control the scope of work included in a Work Scope.

1. When a potential jurisdictional dispute or similar interruption of construction activities is identified, affected contractors shall promptly negotiate a reasonable settlement to avoid or minimize interruption and delays.

2. Unless otherwise indicated, Work Scopes include a complete section of Work, including but not limited to labor, materials, equipment, scaffolding, hoisting, applicable permits and taxes as required by the Contract Documents.

B. By submitting a Bid, bidder acknowledges they have reviewed all Contract Documents, including previously issued documents and have anticipated, based on information provided, the impact of future Work as it affects their Work Scope.

C. The following Work Scopes are included:

1. Work Scope 1 – Built Up Roofing

END OF SECTION 01 13 00

WORK SCOPE 01
BUILT UP ROOFING

1.01 WORK SCOPE 01 – Built Up Roofing

- A. Scope of Work: This Work Scope consists of the Work directly and indirectly required by the specification sections listed below, plus all project drawings, addenda, and other documents identified as part of the Agreement, regardless of design discipline, drawing sheet identification, or jurisdictional requirements.
1. Specific Specifications Sections that are the responsibility of the Work Scope:
- | | |
|--|----------|
| Division 0 Procurement Requirements / Conditions of the Contract | Complete |
| Division 1 - General Requirements | Complete |
| 06 10 00 - Rough Carpentry | Complete |
| 07 22 00 – Roof Deck Insulation | Complete |
| 07 42 14 – Metal Wall Panels | Complete |
| 07 55 20 – Modified Built Up Roof System | Complete |
| 07 56 50 – Preparation for Re-Roofing | Complete |
| 07 60 00 – Flashing and Sheet Metal | Complete |

1.02 PROJECT SPECIFIC SCOPE CLARIFICATIONS

- A. General Requirements for All Work Scope Categories: Refer to Section 01 12 00 for additional requirements affecting this Work Scope.
- B. Coordination: Coordination must take place between all work scopes and the Construction Manager. Contractor is required to coordinate schedule and substrate requirements with all other work scopes.
- C. Multiple mobilizations as/if required to complete this scope of work
- D. Safety: Compliance and enforcement of safety programs, Refer to Section 01 5200.
- E. Includes all equipment necessary for the completion of the contractor's work, including scaffold, hoists, forklifts, and other equipment necessary for the completion of the work.
- F. Provide dumpsters.
- G. All Cutting and Patching related to this Work Scope.
- H. Demolition: all roof demolition as required to provide a new roofing system as specified, is by this work scope.
- I. Roof Blocking: all roof blocking as per the plans and specifications is by this work scope and include but is not limited to the following:
1. Parapet Blocking
 2. Scupper Blocking
- J. Modified Built Up Roofing: Provide Modified Built Up roofing systems in accordance with Section 07 55 20, including, but not limited to:
1. Finishing Felts
 2. Base Flashings
 3. Roof Bitumens
 4. Gravel, coatings, and cements as indicated
 5. Vapor barrier where indicated or required by specifications.
 6. Roof insulation as required to achieve manufacturer's roof warrant as specified.
 7. Coordinate requirements for wood blocking within roof assembly to achieve specified warranties. Refer to Section 06 10 00.
 8. Coordinate and install penetrations for mechanical and electrical components
- K. Special Coordination at Exterior Envelope (Vapor Barriers / Thermal Enclosure): Construction exterior enclosure to ensure continuous thermal insulation and vapor barrier as indicated or required (walls, soffits, parapets, and insulated canopies).
- L. Building Insulation: Provide "building insulation" in addition to roofing insulation at locations integral with this Work Scope, including insulation that is covered up by this Work Scope or is required to complete this Work Scope.

WORK SCOPE 01

BUILT UP ROOFING

1. Insulation in connection with roofing work including insulation between other dissimilar materials.
 2. Insulation at parapet wall behind this work scopes material.
 3. Include tapered insulation where indicated and as required to achieve positive slope and drainage.
 - a. Standing water, or visual indications of standing water, are not acceptable and additional tapered insulation shall be added to eliminate standing water.
 4. Roof curbs as indicated and required (both field fabricated and prefabricated curbs).
 5. Gypsum board, gypsum sheathing, or other material required to go over metal deck or underneath roof insulation.
 6. Include roofing material on the backside and top of parapet walls.
- M. Sealants: Provide sealants for roofing and sheet metal work associated with roof assemblies in accordance with roof manufacturer's requirements.
1. Provide associated sealants to achieve a complete watertight assembly under this Work Scope.
- N. Roof Specialties: Provide roofing specialties and components required for complete assembly as indicated.
1. Copings and pipe penetration flashing.
- O. Roof Penetrations: Includes architectural, structural, mechanical and electrical penetrations indicated or required
1. Refer to structural, mechanical, and electrical drawings for scope of additional penetration not indicated on architectural documents.
- P. Metal Flashing: Provide flashing for a complete system including, but not limited to:
1. Sheet metal flashing, drip edges, inside and outside corners.
 2. Copings, gravel stops, scuppers and down spouts
 3. Counter flashing, copings, flashings for mechanical equipment and penetrations by other trades work.
 4. Sheetmetal work necessary or required to complete the roofing systems and achieve a watertight assembly.
 5. Roof control joints and related materials as specified.
 6. Reglets and inserts into adjacent construction required to achieve watertight assembly is part of this Work Scope.
- Q. Roof Expansion Assemblies: Provide at locations indicated and in compliance with manufacturer's requirements. If manufacturer's requirements are different from Contract Documents submit RFI for clarification.
1. Provide roof expansion assemblies.
 2. Provide compressible insulation or fire saving insulation within roof expansion joint assemblies.
 3. Provide pre-formed foam sealant expansion joints at all locations required.
- R. Roof Drains: Proper connection of roofing to drains is by this Work Scope.
- S. New Roof Drains: Provide and install.
- T. All work associated with ductwork modifications should be included in this work scope.
- U. Perimeter and Opening Protection: This Work Scope is responsible for removal and replacement of perimeter protection, and removal and replacement of protection at all floor openings if required for the installation of its work. Provide temporary perimeter and opening protection and other required safety devices when working at floor openings and perimeters.
1. Provide and maintain OSHA approved temporary guardrails and fall protection as required.
- V. Clean-up: Remove roofing related material from roof area in a timely manner as determined by ICS Consulting.

WORK SCOPE 01
BUILT UP ROOFING

1.03 SPECIAL COORDINATION OR INSTALLATION REQUIREMENTS

- A. Provide all field measurement and layout work necessary for the completion of the contractor's work.
- B. Acceptance of Substrates and Existing Conditions: Starting work constitutes acceptance of existing conditions, preparatory work, and substrates that may affect the performance of this Work Scope.
- C. Complete Assembly: Provide fasteners, sealant, trim, miscellaneous components, etc. for a complete installation.
 - 1. This Work Scope recognizes the contract documents do not reflect every detail necessary to provide a complete working system, and therefore has included additional materials and related labor to provide a complete assembly as per the intent of the documents.
- D. Construction Cleaning: Perform daily construction cleaning operations for debris generated by this Work Scope.
 - 1. Contractor is required to allocate all work force shut down and clean both outside and inside for the duration of 1 hour, twice a week. ICS site superintendent is to coordinate the time frames as work progresses.
- E. Snow Removal: If required, all snow removal to support roofing operations is by this work scope. Building access (on ground) will be by Owner.

1.04 QUALITY ASSURANCE REQUIREMENTS

- A. Manufacturer's Field Services: Include coordination and related costs to include manufacturer's technical representative services as specified, but not less than the following:
 - 1. After installation is complete, make all required notifications and secure all required inspections by the manufacturer of the approved materials to facilitate issuance of the specified roof warranty.
 - 2. Issue report to ICS indicating installation complies with manufacturer's requirement to achieve specified warranties and requirements of Contract Documents.
 - a. If manufacturer's field representative can not issue above report, roofing contractor shall make necessary modifications to comply at no cost to contract.
- B. Roof Warranties: Include special warranties as specified. Coordinate terms and conditions with system manufacturer to comply with Contract Documents.
- C. Testing: cooperate fully with the Owner's testing agent.
 - 1. Include cost for labor to support field inspection and subsequent patching of test areas for testing or inspections required by owner's testing agency, municipal or insurance entities.

1.05 MATERIAL HANDLING AND STORAGE

- A. Delivery and Receiving of Materials: Refer to Section 01 12 10 for additional requirements.
- B. Material Storage: *By contractor*
- C. Hoisting: Refer to Section 01 1210 for additional requirements regarding hoisting.
- D. Scaffolding: Work Scope is responsibility for your own working platforms, scaffolding, and equipment necessary to access Work. Coordinate scope and timing of scaffold with ICS.
- E. Special Protection: Take special care while working above other trades and to provide protection necessary to protect trades below from falling objects.

END OF WORK SCOPE #01

SECTION 01 21 00

ALLOWANCES

PART 1: GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. Certain materials and/or labor are specified in the Contract Documents by lump sum allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and /or labor to a later date when additional information is available for evaluation.
 - 2. Utilization of allowances will be reviewed with the Construction manager, and approved of, prior to any labor or materials being spent with funds from this allowance. Allowances include cost of all labor, equipment, material, receiving, handling, and installation as well as Contractor overhead and profit.

1.2 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. The Architect will issue a Proposal Request (PR) for pricing on each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

PART TWO: PRODUCTS (Not Applicable)

PART THREE: EXECUTION

3.01 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Work Scope 01 to include the sum of \$15,000.00 for miscellaneous electric

work needed for completion of the project.

END OF SECTION 01 21
00

SECTION 01 22

00 UNIT

PRICES

PART 1: GENERAL

1.01 SUMMARY

- A. This Section specifies administrative and procedural requirements for unit prices.
 - 1. In the space indicated on the Bid Form, submit unit prices as required by this section and listed in the Unit Price Schedule. Only one value for each unit price will be allowed.
 - 2. A unit price is a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the quantities of Work required by the Contract Documents are increased or decreased.
 - 3. Unit prices include all necessary material, overhead, profit and applicable taxes.
 - 4. Refer to individual Specification Sections for construction activities requiring the establishment of unit prices.
- B. While unit prices are not to be used in the selection of the successful Bidder, they must be submitted and approved prior to execution of the Contract.
 - 1. The Owner reserves the right to reject a unit price they deem unsatisfactory and to require a resubmittal.
 - 2. The Owner reserves the right to reject the Contractor's measurement of quantities, and to have this Work measured by an independent surveyor or third party before accepting contract amount.
- C. The Owner reserves the right to throw out a bid that does not include a unit price or assign a unit price based on other bidders' unit prices.

PART 2: PRODUCTS – (Not Applicable).

PART 3: EXECUTION

3.01 UNIT PRICE SCHEDULE

- A. Unit Price #1: Wet Roof Insulation/Board Foot- Provide Unit Prices for removal and replacement of wet roof insulation.
- B. Unit Price #2: Roof Drain/per EACH- Provide unit price for removal and replacement of roof drains.
- C. Unit Price #3: Tectum Deck Replacement/SF – Provide unit price for removal and replacement of tectum deck.
- D. Unit Price #4: Metal Deck Replacement/SF – Provide unit price for removal and replacement of metal decking.

END OF SECTION 01 22 00

SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section describes the limits of the requested alternates to the Contract work. Refer to the Product/Execution Articles of the appropriate Specifications and the Drawings for information pertaining to the work of each alternate.
- B. Each proposal under an alternate shall include all incidental work and all adjustments necessary to accommodate the changes. All work shall meet the requirements of the Drawings, Specifications, and appropriate details.
- C. Submit each alternate proposal as an individual cost for the particular alternate and these shall be proposed under the premise that no other alternates have been accepted. Should the work of an alternate called for by the Bid Form not affect the cost of the work, state "No Change" in the space provided. If an alternate is left blank, the Owner reserves the right to throw out the entire bid or interpret the alternate as "No Change".
- D. Include taxes which are applicable to work involved in alternates as well as costs, if any, for increased coverage of bonds and insurance.
- E. Any of the alternates may be accepted by Owner and will be used in determining the low bidder.
- F. Owner may, at their option, vary the scope of the work by authorizing alternates which will add to the work, deduct from the work or substitute materials, equipment or methods.
- G. Each Bidder shall examine the Drawings and Specifications to determine the extent to which their work is affected by bid alternates. Include in the space provided on the bid form the cost of any added or deducted work resulting from each alternate.
- H. Contractor is responsible for providing work if applicable to each alternate, whether or not an added or deducted cost is included on their bid form.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 IMPLEMENTATION

- A. If the Owner elects to proceed on the basis of one or more of the alternates, make all modifications to the Work required in the furnishing and installation of the selected alternate or alternates subject to the approval of the Architect at no additional cost to the Owner except as proposed in the Bid.

- B. Coordinate pertinent related work and modify surrounding work as required to properly integrate the work under each alternate, and to provide the complete construction required by Contract Documents.
- C. If so stated in the Agreement, or modifications thereto, provide alternate materials, equipment and/or construction as specified.

3.2 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Add Wall Panels (RED DASH LINE)

- 1. Work Scope 01 to install new self-adhering ice and water shield, wall panel clips 18" O.C, 22 Ga 12" Wall Panels per map.

B. Alternate No 2. : Add Wall Panels (GREEN DASHED LINE)

- 1. Work Scope 01 to install new self-adhering ice and water shield, wall panel clips 18" O.C, 22 Ga 12" Wall Panels per map.

SECTION 01 23 00

SECTION 01 25 00
PROCUREMENT SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
1. Requirements for submitting substitution requests during the procurement phase and prior to execution of the Owner-Contractor Agreement, requesting substitution of materials, products, equipment and methods of construction which differ from those required by the Procurement Documents.

1.2 SUBSTITUTIONS (DURING THE PROCUREMENT/BIDDING PHASE)

- A. The technical specification sections may have several materials, products, equipment and methods of construction specified under the same heading. Selection of specified materials, products, equipment and methods of construction shall be at the option of the Bidder. Where materials, products, equipment and methods of construction are specified accompanied with the phrase "Or Equal", "Approved Substitution", or similar verbiage, the Bidder may submit materials, products, equipment and methods of construction for approval in accordance with the requirements of this Document.
- B. No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect (or Construction Manager as applicable) at least seven working days prior to the date for receipt of Bids.
1. Submit each request for substitution on the Architect's "Procurement Substitution Request Form" included at the end of this Document.
 2. Submit one material, product, equipment or method of construction per request form, either duplicated from the Project Manual or available from the Architect's office.
 3. Submittals not accompanied by this form properly filled in and endorsed, will be discarded without review. NO EXCEPTIONS.
 - a. Include a self-addressed, stamped envelope if a formal reply is desired. Requests for substitution will be returned in this envelope if provided, at the Architect's earliest convenience.
 4. Where specified materials, products, and equipment are accompanied by a color, pattern or finish selection, requests for substitution shall include an actual sample of the proposed color, pattern or finish for review.
 5. Where multiple materials, products or equipment are specified within a single specification section, specifically identify which product you wish to substitute.
- C. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or rejection of a proposed substitution shall be final.
- D. Materials, products, equipment and methods of construction approved by this substitution procedure will be issued in an Addendum.
- E. **PART 2 PRODUCTS (NOT USED)**
- F. **PART 3 EXECUTION (NOT USED)**

ATTACH ICS OR ARCHITECTS SUBSTITUTION REQUEST FORM

END OF SECTION 01 25 00



A LEGENCE Company

Substitution Request

(Incomplete forms will not be processed)

REQUEST FOR SUBSTITUTION FORMS MUST BE RECEIVED BY

3:00PM CST Five (5) CALENDAR DAYS PRIOR TO BID DATE.

SUBSTITUTION REQUEST # _____

PROJECT NAME: Kingsland Roofing 2025 **FROM:** _____

TO: todd.wetzel@ics-builds.com **DATE:** _____

Specification

Section Title: _____

Description: _____

Section Number: _____

Paragraph: _____

Proposed Substitution *(Note: Limit this Request to one substitution)*

Manufacturer: _____ Address: _____

Trade Name: _____ Model Number: _____

Phone Number: _____ Contact Person: _____

Installer: _____ Address: _____



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Phone Number: _____ Contact Person: _____

History: New Product 2 to 5 years old
 5 to 10 years old More than 10 years old

Differences between proposed substitution and specified product:

Point by point comparison data attached – REQUIRED

Reason for Not Providing Specified Item:

Similar Installation: Include Date Installed

Project: _____

Architect: _____

Address: _____

Owner: _____

Proposed substitution affects other parts of Work: No Yes; Explain

Amount of Savings to Owner for this Substitution:
\$ _____

Will Requested Substitution Impact Schedule: No Yes, Add _____ days.

Attached Supporting Data: Product Data Drawings Tests Reports Samples

Contractor's Certification

The undersigned party, proposing this Substitution, certifies the following as true and correct and accepts all conditions relating to this request:

- This Substitution has been fully investigated and determined to be equal or superior in all respects.
- The same warranty will be furnished.
- The same maintenance service and source of replacement parts, as applicable, is available.
- The change to the Construction Progress Schedule is as stated above.
- The cost data as stated above is complete. All claims for any additional costs related to this Substitution, if accepted, are explicitly waived by the Contractor.
- The Substitution does not affect dimensions or functional clearances.
- All architectural/engineering design fees associated with the review, evaluation, and or design and detailing changes as a result of this Substitution Request are the responsibility of the Contractor. The amount of these fees will be deducted from the Contract Sum due to the Contractor.
- Coordination, installation, and changes to the Work as necessary for an accepted Substitution will be complete in all respects.

Submitted By: _____
Signature: _____
Firm: _____
Address: _____
Telephone: _____

Consultant's Review and Recommendation

- Substitution Recommended: Make submittals in accordance with Specifications.
- Substitution Recommended as Noted: Make submittals in accordance with Specifications.
- Substitution Rejection Recommended: Use specified products. Architect shall not be held responsible for the performance of any substitution accepted or approved by Owner over the recommendation of the Architect (Release and Indemnification Agreement between Owner and Architect required).



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- Substitution Request received after deadline: Use specified products.
- Substitution Request returned: Incomplete submittal, use specified products.

Comments:

Signature: _____ Date: _____

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1: GENERAL

1.01 CHANGE ORDER PROCEDURES

- A. Changes in the Project scope of work affecting the project cost can be made through AIA Document G701 - Change Order or Procure approved process.
- B. The procedures for processing changes in the scope of Work are as follows:
 - 1. The Architect prepares one of the following documents to modify the scope of work.
 - a. Supplemental Instructions (SI) which are used for no cost changes.
 - b. Request for Proposal (RFP) / Proposal Request (PR) to be used for proposed changes that need written approval of cost prior to proceeding.
 - c. Construction Change Directive AIA Document G714 (CCD) which is used when the work must proceed immediately, and time and material cost are to be submitted as soon as possible for review by the Architect.
 - 2. The Contractor reviews and responds as follows:
 - a. Supplemental Instructions (SI): This no cost change is to be carried out in accordance with the modifications to the contract documents described therein. If this change effects cost, do not proceed with this change. Notify the Architect in writing within 10 days of receipt that an itemized (labor and material) quotation will be submitted within 21 days of initial receipt of this Supplemental Instruction. If a cost is not submitted within 21 days, this Supplemental Instruction will be accepted at no additional cost.
 - b. Request for Proposal (RFP) / Proposal Request (PR): Submit an itemized (labor and material) quotation for the proposed modifications to the contract documents as described therein within 10 days of receipt. If a cost is not submitted within 10 days, this Proposal Request can be accepted at no additional cost. Written approval is required prior to proceeding with this change.

- c. Construction Change Directive AIA Document G714 (CCD): Proceed immediately to carry out this change in the contract documents as described therein. If this revision effects cost, submit an itemized (labor and material) quotation within 21 days of receipt. If a cost is not submitted within 21 days this Change Directive will be accepted at no additional cost.
- 3. The Construction Manager and the Architect will review the Contractor's labor and material itemized quotation and respond in writing whether it is acceptable, or needs revision. When all pricing is accepted by the Architect and Owner, a Change Order will be processed. Change Orders will be processed at intervals determined by the Construction Manager and the Architect throughout the construction schedule.
- C. See General Conditions of the Work for methods of determining cost or credit, mark-up and schedule for submitting claims.

END OF SECTION 01 26 00

SECTION 01 29 00
PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of each Prime Contract (Each Work Scope), including General Conditions and other Division 00-01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment. ICS utilizes Procore for the invoicing process.
- B. Related Sections include the following:
 - 1. Division 1 Section "Allowances" for procedural requirements governing handling and processing of allowances.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule. The Schedule of Values are to be entered into Procore by the Contractor.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.
 - 2. Enter the Schedule of Values within Procore at the earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
 - 3. Sub-schedules: Where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.

- B. Format and Content: Within "Commitments" in Procore, enter the Schedule of Values. This can be accomplished by manually entering each item within Procore or by utilizing the CSV file upload feature. Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least two line items (labor and material) for each Specification Section. If invoicing for shop drawings break that amount into a separate line item.
1. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
 2. Round amounts to nearest whole dollar, total shall equal the Contract Sum.
 3. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 4. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
 5. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct costs of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

1.5 MODIFICATION PROCEDURES

- A. The Engineer/Architect/CPM will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract by issuing Supplemental Instructions per AIA Document G710.
- B. Construction Change Directive: Engineer/Architect/CPM may issue a document, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order by issuing AIA Document G714.
- C. Proposal Request: The Engineer/Architect/CPM may issue a document which includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change. Contractor shall prepare and submit a fixed price quotation within ten (10) days. Utilize AIA Document G709.
- D. Contractor may propose a change by submitting a request for change to Engineer/Architect/CPM, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change and the effect on the work by separate or other contractors.
- E. Execution of Change Order: Engineer/Architect/CPM will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.6 APPLICATIONS FOR PAYMENT

- A. Procure's "Invoicing" tool to be utilized
 1. CPM will issue an Invitation to Bill monthly
 2. Under the "Do you want to bill this period," area, choose the following:
 - i. If you want to submit the invoice, click Yes. Then click Post Response and continue with step 3. OR
 - ii. If you are not ready to submit the invoice, click No. Then click Post Response.
 3. At the Create New Invoice page in Procure, the Period Start, Period End and Billing Date is pre-filled with what the CPM set. Enter the invoice number.
 4. In the Detail section, enter either your percent complete or amount complete for each line item in your original Schedule of Values
 5. Enter the materials presently stored amount. This will be added to the percent complete for each line item. Reference Stored Material requirements within the specifications.
 6. In the Approved Commitment Change Orders section, repeat the process for each change order's line items by entering the percent or amount complete for each line item. Any new approved change orders will automatically be added at this location.
 7. Attach required backup documentation; at a minimum, a signed, notarized copy of the application. Contact the CPM to determine if additional documentation is required.
 - o How to export the Pay Application in Procure:
 - i. Click Save
 - ii. Click Export and select PDF
 - iii. Sign the PDF
 - iv. Return to Procure and select the Summary Tab
 - v. Click Edit
 - vi. Attach the signed PDF's
- B. Each Application for Payment shall be consistent with previous applications and payments as certified by Construction Manager and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- C. Payment Application Forms: Procure's preset AIA form to be utilized
- D. Application Preparation: Complete every entry in Procure. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Construction Manager will return incomplete applications without action.
- E. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Products list.
 5. Schedule of unit prices.
 6. Submittals Schedule (preliminary if not final).
 7. List of Contractor's staff assignments.

8. Copies of building permits.
 9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
- E. Payment – Application Times: Payment Applications must be submitted monthly to the Construction Manager on or before the 25th day of the month for the work performed through the end of the month. No faxed, emailed or mailed, Applications for Payment will be accepted. The period of Construction Work covered by each Application for Payment is the period indicated in the Agreement.
- F. Accuracy – All Payment Applications must accurately reflect work completed through the end of the month. Any Payment Application deemed inaccurate by the Construction Manager will be rejected in its entirety.
- G. Monthly payments will be made within [NUMBER] days of the end of the month billed. Payments will be made less five percent (5%) retainage on completed work in place, material stored on the project site, and material stored off the project site with prior agreement.
1. Storage Agreement, Photos, Insurance Certificate for materials stored off-site, and Consent of Surety to off-site storage are required.
 2. Submit all completed documents to the Construction Manager ten days prior to requesting payment.
- H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.
1. This Application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
 2. Administrative actions and submittals that shall precede this Application include:
 - a. Occupancy permits and similar approvals.
 - b. Warranties (guarantees) and maintenance agreements.
 - c. Test/adjust/balance records.
 - d. Maintenance instructions.
 - e. Meter readings.
 - f. Startup performance reports.
 - g. Changeover information related to Owner's occupancy, use, operation and maintenance.
 - h. Final cleaning.
 - i. Application for reduction of retainage and consent of surety to reduction of retainage.
 - j. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion.
 - k. Provide Operation and Maintenance (O+M) materials or supplies listed in all pertaining Specification Sections.
- I. Final Payment Application: Administrative actions and submittals that must precede the final Application for Payment include the following:
1. Completion of Project closeout requirements, i.e., IC 134, G707, G706, G706A, As-Builts, Warranty, O+M's
 2. Completion of items specified for completion after Substantial Completion.
 3. Ensure that unsettled claims will be settled.
 4. Ensure that incomplete Work will be completed without undue delay.

5. Transmittal of required Project construction records to the Construction Manager.
6. Proof that taxes, fees, and similar obligations were paid.
7. Removal of temporary facilities and services.
8. Removal of surplus materials, rubbish, and similar elements.

PRODUCTS (Not Used)

EXECUTION (Not Used)

END OF SECTION 01 29 00

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY OF SECTION

- A. Coordination
- B. Site mobilization meeting
- C. Progress Meetings
- D. Construction Schedule
- E. List of Subcontractors
- F. Shop drawings, product data, samples, test reports
- G. Submittal Procedures
- H. Contractor Review
- I. List of Materials
- J. Guarantees and Warranties
- K. Instruction Manuals
- L. Record Set of Drawings

1.02 COORDINATION

- A. Coordinate construction organization and start-up:
 - 1. Prior to construction mobilization, submit to the Construction Manager a detailed "Plan for use of the site", indicating location and access to field offices, work/storage areas, parking, road access, staging areas, temporary facilities, etc.
 - 2. Establish on-site lines of communication.
 - 3. Verify that their Subcontractors have obtained all permits and inspections for their work.

- B. Coordinate a pre-construction meeting with Construction Managers, Building Officials, Engineer/Architect, and major subcontractors prior to on-site work.
- C. Coordinate submittals, tracking logs, scheduling, and work with other contractors to ensure efficient and orderly sequence of installation of interdependent construction systems.
- D. After Owner occupancy of premises, coordinate access to site for correction of defective work or work not in accordance with contract documents, to minimize disruption of Owner's activities.

1.03 SITE MOBILIZATION MEETING

- A. Schedule a meeting at the project site or other convenient location prior to the start of construction.
- B. Attendance is required by Contractor, Owner, Construction Manager, Engineer/Architect, Contractor's Superintendent, and Major Subcontractors.
- C. The meeting agenda shall include, but is not limited to: Use of site, Owner's requirements, Temporary facilities, Survey and building layout, Security and housekeeping procedures, Construction schedule, Application for payment procedures, Procedures for testing, Requirements for maintaining record documents, and Requirements for equipment start-up.
- D. Construction Manager is to record minutes and distribute copies within four days after meeting.

1.04 PROGRESS MEETINGS

- A. Regular progress meetings shall be conducted at the project site with representatives of the Owner, Construction Manager, Engineer/Architect, and the Contractor including their principal subcontractors. The agenda will be to review: timely submittals, items of significance that could affect progress, progress since the last meeting, and determine where each activity is in relation to the Construction Schedule. Meeting Minutes will be taken and distributed by the Construction Manager.

1.05 CONSTRUCTION SCHEDULE

- A. Submit initial progress schedule to Construction Manager within seven (7) days of award of the contract. The Construction Manager will review schedule and return reviewed copy within seven (7) days after receipt. If required, revise and resubmit within seven (7) days after return of reviewed copy. One copy of construction schedule to be maintained at the site. Indicate the completion date within the contract time.

- B. The Contractor shall update the construction schedule bi-weekly during construction to conform to the current status of the work and give timely notice to all parties as necessitated by revisions. Submit revised construction schedule at each progress meeting, identifying changes since previous version.

- C. Format of the construction schedule shall be computerized as Precedence Diagram Method Network using: Horizontal bar chart, provide a separate line for each major section of work or operation, provide horizontal time scale, identifying first workday of each week, and identify construction activities by major specification numbers and titles.

- D. The content of the schedule shall:
 - 1. Show the complete sequence of construction by activity.
 - 2. Show the early and late start dates, early and late finish dates, float time, and duration of each activity.
 - 3. Show estimated percentage of completion for each activity.
 - 4. Show submittal dates required for shop drawings, product data, samples, and product delivery dates, including items furnished by Owner.

- E. Distribute copies of reviewed schedules to the Engineer/Architect, Construction Manager, Owner, Subcontractors, and those affected by decisions made.

1.06 LIST OF SUBCONTRACTORS

- A. Within seven (7) days after the award of the contract, the Contractor shall submit three (3) copies of a complete list of all work they propose to subcontract. The list shall include Specification Division, or Section, Full legal name, Address, Telephone numbers and name of contact for this project. No subcontracts shall be executed until the proposed list of subcontractors is accepted by Owner, Construction Manager, and Engineer/Architect.

1.07 SHOP DRAWINGS / PRODUCT DATA

- A. All shop drawings, submittals and product data will be completed in electronic format through the use of PROCORE which is a web-based Project Management solution. Access to the web-based Project Management Software solution will be given to each individual by the Construction Manager. Submittals will be assigned and sent directly to the Construction Manager after Contractor has reviewed, stamped, and verified the information is per specification and drawings.

- B. Electronic Transmittal Form(s) will include:
 - a. Title
 - b. Specification Section Number
 - c. Manufacturers Name
 - d. Any notes from the Supplier or Contractor of special interest to Architect/Engineer
 - e. Anticipated Lead time (after approval) of product
 - f. Date Shop Drawing is due back (default is set at 10 days)
 - g. Approvers Selected
 - h. Distribution List Selected

- C. Preparation of product data submittal:
 - a. Mark each copy to identify applicable products, models, options, and other data
 - b. Show dimensions or clearances required
 - c. Show wiring or piping diagrams and/or controls
 - d. Modify drawings and diagrams to delete information that is not applicable to the work

- D. Use only the shop drawings bearing the Engineer/Architect review stamp for construction.

- E. After review, reproduce and distribute in accordance with the General Conditions.

1.08 SAMPLES AND FIELD MOCK-UPS

- A. Submit samples that illustrate characteristics of the product including finishes from the full range of manufacturer's standard colors, textures, and patterns or as specified, for Engineer/Architect's review and selection.
- B. Field mock-ups shall be erected at the project site at a location acceptable to the Engineer/Architect and/or Construction Manager in a size as specified in the respective specification section. Remove mock-ups at conclusion of work or when acceptable to the Engineer/Architect and/or Construction Manager.

1.08.1 TEST REPORTS

- A. When specified in individual specification sections, submit independent testing laboratory reports and certifications in duplicate where indicated for materials and products.

1.08.2 SUBMITTAL PROCEDURES

- A. All Submittals shall be accompanied by transmittal letter containing:
 - a. Section Number(s)
 - b. Submittal Description
 - c. Manufacturer's Name
 - d. Any notes from the Supplier or Contractor of special interest to Architect/Engineer
 - e. Anticipated Lead time (after approval) of product
- B. All submittals shall include: Project title, Date and revision dates, Names of the Contractor/Subcontractor, Identification of product or material, Field dimensions, Applicable drawings sheet and detail numbers or specification section numbers and pages, A blank space of 16" for reviewer's stamp.
- C. Schedule submittals to expedite the project and coordinate submission of related items. The Engineer/Architect will promptly notify the Contractor when a submittal being processed must be delayed for coordination with a related submission.
- D. Allow at least 14 calendar days for Engineer/Architect's review following receipt of a submittal.

- E. Distribute copies of reviewed submittals for coordination of other contractors.

- F. No extension of Contract Time will be authorized because of failure to transmit submittals to the Engineer/Architect sufficiently in advance of the work to permit processing.

1.08.3 CONTRACTOR REVIEW

- A. Contractor shall review submittals prior to submission. Submittals not reviewed or not bearing Contractor's certification of their review will not be reviewed or processed by the Engineer/Architect and will be returned to the Contractor.

- B. Contractor shall be responsible for details and accuracy, for confirming and correlating quantities and dimensions, for selection of fabrication processes, for techniques of assembly, for coordination of work between trades and for performing work in a safe manner.

- C. Contractor shall determine and verify field dimensions, field construction criteria, catalog numbers, completeness, and conformance of submittal with requirement of contract documents.

- D. Make submittals in groups containing all related systems, devices, equipment, and products to ensure that information is available for checking each item when it is received. Partial submittals may be rejected as not complying with the provisions of the Contract Documents and the Contractor shall be strictly liable for all delays.

1.09 LIST OF MATERIALS

- A. Refer to Section 00 72 00 - General Conditions as follows:

- B. Within ten (10) days after the award of the contract (notice to proceed or letter of intent), the Contractor shall submit three (3) copies of a complete list of all materials, products, and equipment proposed to be used in construction to the Engineer/Architect for acceptance. Materials shall not be ordered until the proposed listed materials, products and equipment proposed to be used in construction are reviewed and accepted by the Architect.

- C. Where two or more makes or kinds of items are named in the specifications (or additional names are called for in an addendum), the Contractor shall state which particular make or kind of each item they propose to provide. If the Contractor fails to state a preference, the Owner shall have the right to select any of the makes or kinds named without change in price.
- D. This list shall be arranged in order of specification sections. The items listed shall fully conform to project requirements and specifications. All materials are subject to the Engineer/Architect's acceptance. After acceptance, there shall be no changes or substitutions.
- E. The list shall clearly identify the material, product or equipment by manufacturer and brand by listing the names, for all items, including those where only one material or product is specified. All material, products and equipment shall be specifically named, not listed "as specified".

1.10 GUARANTEES AND WARRANTIES

- A. Refer to Section 00 72 00 - General Conditions, Article 3.5 and 9.3.3
- B. Special Warranties: Contractor shall complete all manufacturers' warranty registrations and shall submit to Owner.

1.11 INSTRUCTION MANUALS

- A. For all items of mechanical equipment and electrical apparatus, the Contractor shall obtain from the manufacturer and furnish to the Engineer/Architect or Construction Manager **two (2) hard copies and two (2) electronic copies of the following:**
 - 1. Operating instructions.
 - 2. Parts lists (including name and address of nearest vendor or service agent).
 - 3. Maintenance instructions.
 - 4. Shop Drawings.
- B. These items are separate from and in addition to the operating placards required to be attached to or posted near the equipment.

- C. Contractor shall provide field instruction to Owner's personnel as required to fully instruct them in correct operating and maintenance procedure, for all equipment installed under this contract.
- D. Manual shall be submitted in 8-1/2" x 11" form in adequately sized three (3) ring loose leaf binders with entire contents indexed and thumb-tabbed. Two copies of the binder shall also be submitted on CD or Flash Drive.

1.12 RECORD SET OF DRAWINGS

- A. Contractor shall provide the record set of drawings to the Construction Manager at the completion of Contract.
- B. During construction, Contractor shall maintain a clean set of drawings for the sole purpose of recording changes and actual "as installed" information.
- C. As a general guide, the type of information to be recorded on the record set includes: (1) changes, deviations or revisions made, except minor or non-critical dimensions, including those made by Change Order or Supplementary Instructions; (2) omissions, including work omitted by accepted alternates; (3) dimensioned locations of major or main utility lines, such as main conduit runs, piping mains and similar work; (4) locations of control valves; (5) additions to the work; (6) changes in significant details; (7) changed footing or other elevations; (8) changes in locations of panel boards, outlets, drains, piping, opening, dampers and similar features; (9) other similar data.
- D. Record Set will be one (1) hard copy and two (2) electronic copies such as removable storage device.

PART 2- PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 30 00

SECTION 01 32 10
PROJECT SCHEDULE REQUIREMENTS

GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Project schedule requirements

1.02 COORDINATION

- A. Contractor shall coordinate scheduling with the Construction Manager. In particular, the Contractor shall provide close coordination of progress schedule, schedule of values, listing of subcontractors, schedule of submittals, progress reports and payment requests.
- B. Close coordination will be required between all construction trades in order that individual areas of construction can be completed by their scheduled time. Consult the proposed construction sequence schedule for start and completion dates of individual work areas.

1.03 PRELIMINARY SCHEDULE

- A. Construction Manager has developed a Preliminary Schedule included at the end of this section, showing work areas of the project, which directly impacts the orderly use of the facility during construction. The timing of these activities has been approved by the Owner.
- B. The Preliminary Schedule may not list the work completely and may vary from the drawings and specifications.

1.04 CONSTRUCTION SCHEDULE

- A. The Contractor shall computerize a Critical Path Method (CPM) using data supplied by the subcontractors. The Contractor will be responsible for their own methods and procedures and the performance of the work consistent with good practice.
- B. Neither the Construction Manager nor the Owner warrants the information supplied by the Contractors is accurate or correct or that the project can be performed as scheduled based upon data supplied by the Contractors.
- C. Contractor shall be responsible for providing all data to develop, update, and maintain the schedule. The Contractor shall supervise all work activities to maintain progress in accordance with the schedule.
- D. Contractor and Subcontractor shall provide their own data to the Construction Manager reflecting the actual plan of operation for the Project.
- E. Schedule input data shall include a comprehensive list of all activities of the construction phase of the project, including submittals (shop drawings, samples, product data), procurement of material, and on-site activity (erection, installation, construction). Activities for procurement of materials shall be included to delineate between material purchasing and fabrication/delivery.
- F. Contractor shall assign durations and sequencing to each activity. Submittal activities shall be listed with the anticipated date of submittal. Procurement activities shall be listed with the duration required for fabrication and delivery from date of purchase.

- G. Construction Manager will guide the Contractor in determining the level of detail to be included in the PDM Networks. The schedule shall be adequate enough to evaluate progress, cost of work in place and serve as a control technique for the Contractor's Field Superintendent.
- H. Contractor and subcontractors shall be obligated to perform in accordance with the Construction Schedule and to participate in updating the schedule. The Contractor shall include provisions in all subcontracts binding Subcontractors to participate in revisions of the schedule as are necessary, and to supply data throughout the project.
- I. Upon request, Contractor shall submit to Construction Manager purchase orders and subcontracts. Such information shall be submitted as soon as available so the Construction Manager will be aware of the progress being made by the Contractor in the placing of orders and the status of material. Contractor shall be solely responsible for expediting the delivery of all material furnished by them and coordinating their subcontractors so construction progress shall be maintained according to Contract Schedule.

1.05 COMPLIANCE WITH THE CONSTRUCTION SCHEDULE

- A. If Contractor shall fail to adhere to the Construction Schedule, or to the said schedule as revised, they must promptly adopt such other or additional means and methods of construction as will make up for the time lost and will assure completion of the work in accordance with said Construction Schedule at no additional cost to the Owner, except in accordance with the provision of the contract governing such costs. If Owner or Construction Manager notifies Contractor of any change in the contract or any extra work performed, or if any other conditions arise which are likely to cause delays, Contractor shall notify the Construction Manager in writing within five (5) days of the receipt of such notice or occurrence of such condition. This notice shall document the effect, if any, of such change, or extra work, of suspension or other condition upon the Construction Schedule. No time extensions will be granted due to a delay in any activity unless Owner deems the length of the delay exceeds the float time associated with the activity at the time the delay occurs.
- B. Refer to General Conditions Paragraph 8.3.3 for actual damages clause.

1.06 FLOAT TIME

- A. Contractor, in directing the compliance with Construction Schedule shall cooperate with the Owner and the Construction Manager in utilizing float time. Full control over use of total float time in the Schedule rests with the Owner and will be utilized by them in any necessary rescheduling of the Construction Schedule occasioned by design changes, field conditions, strikes, Acts of God, or unavoidable equipment and material delays. If rescheduling of any activity adversely affects the Contractor's operation, they shall advise the Construction Manager in writing no later than five (5) days after the receipt of the revised schedule or Notice of Intent to revise the schedule.

1.07 PRELIMINARY SCHEDULE DATES

- A. Work shall be completed as follows:
 - 1. Start Construction: June 2, 2025
 - 2. Substantial Completion: August 15, 2025
 - 3. Final Completion: August 29, 2025

END OF SECTION 01 32 10

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of each Prime Contract (Each Work Scope), including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Related Sections include the following:
 - 1. Division 1 Section 29 "Payment Procedures" for submitting Applications for Payment.
 - 2. Division 1 Section 77 "Closeout Procedures" for submitting warranties and Project Record Documents.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Engineer's responsive action.

1.4 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Architect/Engineer for Contractor's use in preparing submittals.
- B. General: Prepare and submit Action Submittals required by individual Specification Sections.
- C. Submit each submittal online, **via Procore**, where the Construction Manager, Architect and/or Engineer will review and return electronically to the contractor. Mark up and retain one (1) returned copy as a Project Record Document.
- D. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal via Procore with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of a need to review submittals concurrently for coordination.
 - a. Architect/Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- E. Submittals Schedule: Comply with requirements in Division 1 for list of submittals and time requirements for scheduled performance of related construction activities. Provide submittals within 10 days of contract award.

- F. Processing Time: Allow enough time for submittal review, including time for resubmittals. Construction Manager / Architect / Engineer shall have 3 weeks collectively to return submittal reviews.
- G. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 4 by 5 inches (100 by 125 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Engineer.
 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Engineer.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Unique identifier, including revision number.
 - i. Number and title of appropriate Specification Section and paragraphs.
 - j. Drawing number and detail references, as appropriate.
 - k. Other necessary identification.
- H. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals. No substitutions will be accepted without approval by addendum prior to bid.
- I. Additional Copies: Unless additional copies are required for final submittal, and unless Engineer observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.
1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies (if applicable) via Procore.
 2. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
- J. Transmittal: Package each submittal individually and appropriately for transmittal and handling via the required submittal log within Procore. Architect/Engineer will return submittals, without review, that are received from sources other than assigned Contractor.
1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect/Engineer on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
 2. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
- K. Distribution: Furnish copies (if required) of final submittals to manufacturers, subcontractors, suppliers, fabricators, and installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

- L. Use for Construction: Use only final submittals with mark indicating action taken by Architect/Engineer in connection with construction.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
 - 1. Submit each submittal online, **via ProCore**, where the Construction Manager, Architect and/or Engineer will review and return electronically to the contractor. Mark up and retain one (1) returned copy as a Project Record Document.

- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment. Submit individually as identified with Procore.
 - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's product specifications and installation instructions.
 - b. Standard color charts.

- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 - 1. Preparation: Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - d. Templates and patterns.
 - e. Design calculations.
 - f. Notation of coordination requirements.
 - g. Notation of dimensions established by field measurement.
 - 2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 - 3. Submit electronic copies of each submittal, unless prints are required for operation and maintenance manuals. Submit four (4) prints where prints are required for operation and maintenance manuals. Architect/Engineer and CM will each retain one (1) print; remainder will be returned. Mark up and retain one (1) returned print as a Project Record Drawing.

- D. Samples: Prepare physical units of materials or products, including the following:
 - 1. Comply with requirements in Division 1 Section "Quality Requirements" for mockups.
 - 2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - 3. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these

characteristics between final submittal and actual component as delivered and installed.

- a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
 1. Provide sample substitutions where applicable if samples do not meet standards or are not approved due to an issue with quality, quantity, etc.
 - b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, and details of assembly, connections, operation, and similar construction characteristics.
4. Number of Samples for Initial Selection: Submit one (1) full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Engineer will return submittal with options selected.
 5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

PART 3 – EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.
- B. Approval Stamp: Stamp each submittal with a uniform approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S/ENGINEER'S ACTION

- A. General: Architect/Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect/Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it within 3 weeks. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION 01 33 00

SECTION 01 50 00
TEMPORARY FACILITIES & CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of each Prime Contract (Each Work Scope), and other Divisions 0 and 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes Contractor and Owner provided temporary facilities and controls, temporary utilities, support facilities, and security and protection.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Water service and distribution.
 - 2. Storm and sanitary sewer.
 - 3. Sanitary facilities, including drinking water.
 - 4. Temporary heat.
 - 5. Ventilation.
 - 6. Temporary electric power and light.
 - 7. Telephone service.
- C. Support facilities include, but are not limited to, the following:
 - 1. Field offices and storage sheds.
 - 2. Temporary roads and paving.
 - 3. Dewatering facilities and drains.
 - 4. Temporary enclosures.
 - 5. Hoisting and rigging.
 - 6. Waste disposal services.
 - 7. Rodent and pest control.
 - 8. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Temporary fire protection.
 - 2. Barricades, guard rails, warning signs and lights.
 - 3. Environmental protection.

1.3 DIVISION OF RESPONSIBILITIES

- A. General: These Specifications assign each contractor / Work Scope, specific responsibilities for certain temporary facilities used by themselves and others. The Construction Manager, on behalf of the Owner, will provide limited temporary facilities and controls that are not associated with normal construction activities of other contractors and are not specifically assigned otherwise by the Construction Manager.
- B. Each Work Scope is responsible for the maintenance of the following:

1. Installation, operation, maintenance, and removal of each temporary facility usually considered as its own normal construction activity, as well as the costs and use charges associated with each facility.
2. Electric power cords and extension cords, supplementary task lighting and special lighting necessary exclusively for its own activities.
3. Their own field office, at a location approved by the Construction Manager, complete with necessary utilities.
4. Their own storage and fabrication sheds.
5. Cold weather protection; temporary heat, enclosures, ventilation and humidity control where these facilities are necessary for construction activity.
6. Temporary lifts and hoisting requirements for unloading and installing their work outside and inside the building.
7. Collection and disposal of their own hazardous, dangerous, unsanitary, or other harmful waste material.
8. Provide dumpster for removal of own waste material.
9. Secure lock up of its own tools, materials, and equipment.
10. Containerized bottled drinking water for their own workers.
11. De-watering facilities to complete their work.
12. Ladders from floor-to-floor.
13. Construction aids and miscellaneous services and facilities necessary exclusively for their own construction activities.
14. Water hoses necessary for their own construction activities.
15. Fire extinguishers for the Contractor's use, as required and as applicable to the type of work.
16. Security enclosure and lock up as required for a safe and secure building.
17. Floor opening protection.
18. Temporary power and water required for their work prior to the dates that these services are noted to be available.
19. Temporary weather and security enclosures of window and door openings.
20. VEHICULAR ACCESS AND PARKING
 - a. Maintain temporary roads accessing public thoroughfares to serve construction area. Coordinate with Governmental Agency or Agencies having jurisdiction over public roadways adjacent to the site for site access. All costs incurred to provide site access shall be borne by the Contractor.
 - b. Extend and relocate access roads and parking as needed. Provide detours necessary for unimpeded traffic flow.
 - c. Provide means of removing mud from vehicle wheels before entering streets.
 - d. Designate temporary surface parking areas to accommodate construction personnel. Coordinate with Construction Manager. Parking will be allowed on existing parking lots in the areas designated for the contractor's use. On-street parking will be allowed along the curbs directly connected with the project site. Obey all existing traffic and parking ordinances.

C. The Construction Manager will provide the following:

1. Temporary field offices for the Construction Manager, Architect, and the Owner.
2. Temporary portable toilets for use by all contractors.

1.4 USE CHARGES

- A. General: Cost or use charges for temporary facilities are not chargeable to the Owner unless specifically identified as the Owner's responsibility. The Owner will not accept a contractor's cost or use charges for temporary services or facilities as a basis of claim for an adjustment in the Contract Sum or the Contract Time.
- B. Water Service: The Owner shall pay water use, whether metered or otherwise, for water used by all entities engaged in construction activities.
- C. Electric Power Service: The Owner shall pay electric power use charges (exclusive of Contractor job office/trailers), whether metered or otherwise, for electricity used in construction activities at the Project Site after utility company temporary service and transformer are installed.
- D. Sewer Service Use Charges: The Owner shall pay sewer service use charges for sewer usage, by all parties engaged in construction, at the Project Site.
- E. Other entities using temporary services and facilities include, but are not limited to, the following:
 - 1. The Owner.
 - 2. The Architect.
 - 3. The Construction Manager.
 - 4. Testing agencies.
 - 5. Personnel of government agencies.

1.5 QUALITY ASSURANCE

- A. Regulations: Each contractor shall comply with industry standards and with applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
 - 1. Building code requirements.
 - 2. OSHA health and safety regulations.
 - 3. Utility company regulations.
 - 4. Police, fire department and rescue squad rules.
 - 5. Environmental protection regulations.

1.6 PROJECT CONDITIONS

- A. The General Construction Work Scope 1 shall furnish, install, and maintain any temporary enclosures, doors and transparent plastic covered windows, or plywood and stud construction, required to protect their work from damage due to vandalism, or the elements, and to maintain suitable temperature during installation or finishing work. Also provide all items required to ensure safety of individuals on site.
- B. Temporary Utilities: At the earliest feasible time, when acceptable to the Architect-Engineer and Owner, and as directed by the Construction Manager, usage shall change over from the temporary service to the use of permanent service.

1. Temporary Use of Permanent Facilities: The Installer of each permanent service shall assume responsibility for its operation, maintenance, and protection during use as a construction facility prior to the Owner's acceptance, regardless of previously assigned responsibilities.
2. Conditions of Use: The Contractor shall keep temporary services and facilities provided by the Contractor clean and neat in appearance such that they operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with construction progress. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Each Contractor shall provide new materials, or if acceptable to the Architect and Construction Manager, undamaged, previously used materials in serviceable condition may be used. Provide materials suitable for use intended.

2.2 EQUIPMENT

- A. General: Each Contractor shall provide new equipment, or if acceptable to the Architect and Construction Manager, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.
- B. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.
- C. Electrical Power Cords: Provide OSHA approved, UL labeled, and grounded extension cords. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
- D. Lamps and Light Fixtures: Provide heavy duty service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures. Provide outdoor rated fixtures where exposed to moisture.
- E. Heating Units: Temporary heating units utilized by the Contractor prior to building enclosure shall have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed. Provide temporary ductwork and supplemental fans to distribute conditioned air to the work space. Direct Flame heaters of any fuel source are not allowed inside the building footprint. Indirect Flame or electric heaters will be the only acceptable methods of temporary heat.
- F. Fire Extinguishers: Each Contractor shall provide hand-carried, portable, UL-rated, Class ABC fire extinguishers for temporary offices and similar spaces.

- G. Fire Extinguisher in building: Work Scope 1 shall provide and maintain portable OSHA approved fire extinguishers per OSHA requirement until no longer required.
- H. Cold Weather Protection: Each Contractor shall provide heating and protection required prior to the enclosure of the building to allow their Work to continue during cold weather.
- I. Dumpsters: Placement of dumpsters (by Owner/CM) for the removal of construction debris and waste from the building and project site shall be determined and controlled by the Construction Manager.
 - 1. Each Contractor shall participate in sorting of debris and waste for hauling to separate assigned landfills.
 - 2. Each Contractor is responsible for their own collection and disposal of hazardous, dangerous, unsanitary, or other harmful waste materials. Comply with local and state rules and regulation for disposal.
 - 3. Each Contractor shall remove all construction debris and waste daily as directed by the Construction Manager.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities as directed by the Construction Manager where they will serve the Project adequately and result in minimum interference with performance of the Work. As Work progresses, relocate and modify facilities as directed by the Construction Manager.
- B. Each Contractor shall provide each facility, as directed by the Construction Manager, ready for use when needed to avoid delay. Maintain and modify as required. Do not remove facilities until directed by the Construction Manager.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: As Identified in the Work Scopes, the Work Scope 1 shall engage the appropriate local utility company to install temporary services. Where the utility company provides only part of the service, provide the remainder with matching, compatible materials, and equipment. Comply with utility company recommendations.
 - 1. Provide adequate capacity at each stage of construction.
 - 2. Obtain easements to bring temporary utilities to the site where the Owner's easements cannot be used for that purpose.
- B. Construction Water Service: Until water is available from mains, the Construction Manager shall arrange and pay for the water service for construction purposes. The Contractor (and Subcontractor where appropriate) shall provide their own hoses (or piping), connections and other equipment to use water. This service shall be protected from freezing and damage at all times. Immediately replace leaking hoses or connections.
- D. Temporary Lighting: When an overhead floor or roof deck has been installed, electrical contractor/ Work Scope 1 to provide temporary lighting with local switching.

1. Comply with OSHA requirements and install and operate temporary lighting that will fulfill security and protection requirements without operating the entire system. Provide temporary lighting that will provide adequate illumination for all construction operations and traffic conditions, in all areas. Supplemental task lighting shall be included by all contractors in their bid. Ensure that all cords for temporary lighting are properly maintained, undamaged and out of the way of work or machinery.
- G. Wash Facilities: Each Contractor requiring wash facilities is responsible to install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Dispose of drainage properly. Supply cleaning compounds appropriate for each condition.

3.3 SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities as directed by the Construction Manager.
1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion may be permitted to use permanent facilities, under conditions acceptable to the Owner and Construction Manager.
 2. Each Contractor shall provide storage and enclosures to protect and preserve the materials stored at and off the site. Materials such as wood, metal, cement, masonry materials, equipment of any type, conduit, and similar materials, shall not be piled directly on ground. Coverings shall be durable, watertight (fully cover sides, as well as top) substantial and well anchored to prevent blowing away. Shed type of enclosures shall be provided for easily damaged and small items. Any protection which becomes damaged shall be replaced immediately.
- B. Provide noncombustible construction for offices, shops and sheds located within the construction area or within 30 feet (9 m) of building lines.
- C. Project Identification: The Construction Manager will provide a project identification sign. No other project signs will be allowed without approval of owner and the Construction Manager.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until directed by the Construction Manager.
- B. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses.
- C. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
- D. Barricades, Guard Rails, Warning Signs and Lights: Each Contractor shall provide barricades, guard rails, warning signs and lights for their work. Comply with OSHA standards and code

requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.

- E. Security Enclosure and Lock up: Each Contractor shall provide their own locked and secured materials and equipment storage areas to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
 - 1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, each Contractor shall provide a secure lock up. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- F. Floor/Roof Openings, Open Sides and Leading Edge Protection: Each Contractor shall install and maintain standard floor/roof covers and/or railings and toe boards for all openings, edge of platforms, leading edges, and runways that are part of the Contractor's work.
- G. Environmental Protection: Each Contractor shall provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid using tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours authorized by the local governing unit.

3.5 OPERATION, TERMINATION AND REMOVAL

- A. The Construction Manager has the authority to: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities and good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
 - 2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: The Construction Manager will have the sole authority to allow the removal of each temporary facility when Construction Manager determines that the need has ended, or when replaced by authorized use of a permanent facility. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are the property of each Contractor providing such facility.
 - 2. At Substantial Completion, clean and renovate permanent facilities used during the construction period including, but not limited to, the following:

- a. Replace air filters and clean inside of ductwork and housings.
- b. Replace significantly worn parts and parts subject to unusual operating conditions.
- c. Replace lamps burned out or noticeably dimmed by hours of use.

END OF SECTION 01 50 00

**SECTION 01 52 00
SAFETY**

PART 1 - GENERAL

1.1 OVERVIEW

- A. The personal safety and health of all workers at the project site is of primary importance. The prevention of occupationally induced injuries/illnesses and the compliance with regulatory requirements will be given precedence over operating productivity whenever necessary.

1.2 RELATED SECTIONS

- A. 00 72 00 General Conditions of the Contract.
- B. 01 33 00 Submittal Procedures

1.3 SUBMITTALS

- A. Submission of the following is required prior to commencement of work and per 01 33 00 Submittal Procedures.
 - 1. Safety/AWAIR Program including last date of annual training.
 - 2. Process of conducting weekly toolbox talks
 - 3. Silica Plan (if your scope of work creates silica concerns, this must be included)
 - i. Proper training documentation to be included
 - 4. Fall Protection Plan (if your work will require any activity above 6', lifts, roof work, etc.)
 - i. A Competent Person must be identified along with proper training documentation
 - 5. Steel/Pre-cast Erection Plan (must be specific to this project)
 - 6. Crane and pick plan if applicable (certification of crane operator & rigger)
 - 7. Trench / Excavation Safety (if your scope will be trenching or have open excavations this is required)
 - i. A Competent Person must be identified along with proper training documentation
 - 8. Confined Space Plan (if your scope requires work in a confined space, this is required)
 - i. Proper training documentation to be included
 - 9. Hot Work Plan (if your scope requires hot work, this is required)
 - i. Must also include training documentation and example of hot work permit
 - 10. Training documentation for operating any equipment
 - 11. SDS Sheets
 - i. Must be readily available (identify the process i.e., paper copies, smartphone, etc.)

1.4 OUTLINE OF RESPONSIBILITIES

- A. Each Contractor is responsible for compliance with all applicable governmental safety regulations for their operations, and the coordination of safety precautions with other Contractors on-site.

- B. Each Contractor shall appoint an on-site safety representative who is responsible for administering the Contractor's safety program and has the authority to act on behalf of the Contractor on safety issues.
- C. The Contractor's on-site safety representative shall train and instruct their employees, attend project safety meetings, immediately supervise the correction of unsafe acts or conditions, investigate all accidents and injuries involving Contractor employees and conduct weekly safety meetings with their employees.
- D. Each Contractor shall submit a written report of all accidents causing personal injury or property damage to the Construction Manager's Project Superintendent within 24 hours of their occurrence. The report must include the date and time of the occurrence, damage to equipment or work, names of injured employees, nature of injury, description of the accident/incident and what will be done to prevent the accident/incident from happening again.
- E. An ICS representative or their 3rd party consultant will periodically evaluate contractor safety activities and performance in conjunction with each Contractor safety representative. Non-conforming activities or performance shall be corrected by the Contractor immediately.”
- F. Project safety meetings will be held weekly with progress meetings, and copies of meeting minutes will be distributed by the Construction Manager to all Contractors working on-site.
- G. Prior to mobilization, each Contractor shall submit to the Construction Manager's site office AWAIR/Safety Program and Safety Data Sheets for all applicable materials to be used on-site.
- H. The use of alcohol or drugs by workers on-site is strictly prohibited.
- I. Each Contractor shall maintain the construction site and building premises in a clean and orderly manner, in conformity with all governmental regulations, OSHA standards and recommendations.
- J. Reference Article 10 of the General and Supplemental Conditions of the contract for other Contractor safety responsibilities.

1.5 SAFE WORK PRACTICES

- A. Any condition or practice that a worker observes that might cause personal injury or damage to equipment should be reported to his supervisor immediately.
- B. Workers shall not operate any equipment that, in their opinion, is not in safe working condition.
- C. Trade Contractors shall ensure that their employees who operate any equipment have been trained & authorized by Trade Contractor and supply this information to the CM upon request.

- D. All prescribed safety and personal protective equipment must be used when warranted and said equipment shall be maintained in good working condition. Appropriate construction footwear, hard hats and class 2 safety vests must be worn at all times. Eye protection and ear protection shall be available and ready to use when there is a hazard exposure i.e. cutting, grinding, etc.
- E. Radios will be allowed at a reasonable level; however, if necessary, only 1 earbud.
- F. Trade Contractors shall train their employees in proper lifting techniques.
- G. Trade Contractors engaged in, but not limited to, excavation, scaffolding, fall protection, etc. shall identify their respective competent person (OSHA 1926.32(f) to the Construction Manager prior to the commencement of their work.
- H. Horseplay will not be permitted on the project.
- I. Fall protection (guardrails, PFAS (personal fall arrest systems) etc. shall be used whenever employees are exposed to fall hazards of six feet or greater. Roofing contractors (and all contractors working on the roof) must submit a site-specific written fall protection plan (not allowed to use safety monitor) to the Construction Manager prior to the commencement of their work. Steel Erection contractors at a minimum, shall follow 1926.750 (Subpart R).
- J. Any Trade Contractor whose employees use powder actuated tools must train their employees in their safe operation, and each employee using such tools shall carry certification that they have been properly trained.
- K. Trade Contractors shall not move or disable access/egress lighting. Each Trade Contractor shall provide his own task lighting.
- L. Rebar and other protrusions must be capped by the Creating Contractor to prevent impalement.
- M. Each Trade Contractor shall be responsible to install guardrails, toe boards, barricades, nets, covers for floor and roof openings and other required safety devices to protect their workers/employees and others from hazardous conditions created by their work. Any Contractor failing to do so shall be liable for any damages or injuries sustained. Each Trade Contractor shall be responsible to remove and reinstall any guardrails, toe boards, barricades, nets and other safety devices that must be taken down for the Trade Contractors to perform their work. If the Trade Contractor who removes a safety or other protective device, fails to install, or reinstall such protective measures, the Construction Manager may direct others to do the work and the costs for such work will be deducted from the Trade Contractor's payment.
- N. Shirts shall be worn at all times. Shirts with sleeves less than 4" or that do not fully cover the torso are not permitted. Tennis shoes (or soft soled shoes) shall not be worn on-site.
- O. The use of all tobacco products on public property is prohibited and will be strictly enforced.

- P. The use of alcohol or drugs by workers on site is absolutely prohibited. Any worker who violates this policy or is found to be impaired by alcohol or drugs shall be immediately removed from the site by his employer. The Owner or the Construction Manager shall have the authority to direct a Trade Contractor to remove a worker from the site.
1. Drug or alcohol "use" means consuming, possessing, distributing, concealing, buying, or selling, being under the influence, or reporting for duty while under the influence of alcohol or drugs to any degree.
 2. The term "alcohol or drugs" means any form of alcohol or other intoxicating beverage and every type of drug, narcotic plant, or similar narcotic substance, whether illegal or not. Workers who are taking prescription drugs in accordance with a valid prescription must advise their supervisor. The supervisor must determine whether any work restrictions are appropriate. The supervisor shall notify the Project Superintendent of any such work restrictions.
 3. Each Trade Contractor shall ensure that their employees are trained and knowledgeable of the specifics of this Safety Policy and must attend safety orientation prior to them working.
 4. Trade Contractors violating the Safety Policy will be issued via Procore a "Safety and Health Violation Observation" as warranted by the Project Superintendent. All violations must be corrected immediately and responded to in Procore.
 5. No tools or equipment will be allowed on-site if factory installed or supplied guards and safety devices have been removed, altered, or not used.
 6. Warning signage applicable to operations being performed shall be posted prior to commencing work i.e., lasers in use, controlled access to roof, etc.
 7. The structural steel erection contractor shall prepare and coordinate a site-specific erection plan. The erection plan (including sequencing) shall be submitted to the Construction Manager prior to the commencement of their work and for approval of phasing. This plan shall be prepared and be consistent with OSHA 1926.750 (Subpart R).
 8. All contractors shall provide current OSHA approved asbestos awareness training to all of its employees prior to jobsite mobilization. Contractors shall include certification of this training in their jobsite specific Safety Manual.
 9. Contractors are strongly encouraged to conduct daily pre-task plans to help identify potential safety risks and methods to mitigate them.

1.6 ENFORCEMENT

- A. Contractors or employees failing to comply with safety requirements shall be subject to disciplinary action. Disciplinary action could include, but is not limited to the following:
1. Removal of a Contractor, Sub-Contractor, or employee from the site.
 2. Reduction or withholding of progress payments until safety violations are corrected.
 3. Payment of costs for correction of a safety hazard created by the Contractor when an imminent safety hazard exists, or when previous notices are not adequately responded to.
 4. Termination of the contract.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. This Section includes administrative and procedural requirements for selecting products for use in the Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. See Division 1 Section "Closeout Submittals" for submitting warranties for contract closeout.
- C. See Divisions 2 through 49 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.02 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, which is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- D. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

1.03 SUBMITTALS

- A. Product List: Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
 - 1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
 - 2. Completed List: Within 60 days after date of commencement of the Work, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
- B. Architect/Engineer and/or Construction Manager Action: If necessary, Architect/Engineer and/or Construction Manager will request additional information or documentation for evaluation within one week of receipt of a request for substitution. Architect/Engineer and/or Construction Manager will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
 - 1. Form of Acceptance: Change Order.
 - 2. Use product specified if Project Engineer cannot make a decision on use of a proposed substitution within time allocated.

1.04 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project; product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 - 5. Store products to allow for inspection and measurement of quantity or counting of units.
 - 6. Store materials in a manner that will not endanger Project structure.
 - 7. Store products that are subject to damage by the elements, under cover in a weather tight enclosure above ground, with ventilation adequate to prevent condensation.

8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
9. Protect stored products from damage.

1.06 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."
PART 2 - PRODUCTS

2.01 PRODUCT OPTIONS

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.

2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Project Engineer will make selection.
 5. Where products are accompanied by the term "match sample," sample to be matched is provided by Architect/Engineer and/or Program Manager.
 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
- B. Product Selection Procedures: Procedures for product selection include the following:
1. Product: Where Specification paragraphs or subparagraphs titled "Product" name a single product and manufacturer, provide the product named.
 2. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled "Manufacturer" or "Source" name single manufacturers or sources, provide a product by the manufacturer or from the source named that complies with requirements.
 - a. Substitutions may be considered unless otherwise indicated.
 3. Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
 - a. Substitutions may be considered unless otherwise indicated.

4. Manufacturers: Where Specification paragraphs or subparagraphs titled "Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
 - a. Substitutions may be considered unless otherwise indicated.

5. Available Products: Where Specification paragraphs or subparagraphs titled "Available Products" introduce a list of names of both products and manufacturers, provide one of the products listed or another product that complies with requirements. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.

6. Available Manufacturers: Where Specification paragraphs or subparagraphs titled "Available Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed or another manufacturer that complies with requirements. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.

7. Visual Matching Specification: Where Specifications require matching an established Sample, select a product (and manufacturer) that complies with requirements and matches Project Engineer's sample. Project Engineer's decision will be final on whether a proposed product matches satisfactorily.
 - a. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents on "substitutions" for selection of a matching product.

2.02 PRODUCT SUBSTITUTIONS

- A. Conditions: Architect/Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect/Engineer will return requests without action, except to record noncompliance with these requirements:

1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect/Engineer and/or Program Manager for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. Requested substitution does not require extensive revisions to the Contract Documents.
3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. Substitution request is fully documented and properly submitted.
5. Requested substitution will not adversely affect Contractor's Construction Schedule.
6. Requested substitution has received necessary approvals of authorities having jurisdiction.
7. Requested substitution is compatible with other portions of the Work.
8. Requested substitution has been coordinated with other portions of the Work.
9. Requested substitution provides specified warranty.

2.03 COMPARABLE PRODUCTS

- A. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product:
 1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.

2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of Project Engineers and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00

SECTION 01 70 00

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
1. Construction layout.
 2. General installation of products.
 3. Progress cleaning.
 4. Starting and adjusting.
 5. Protection of installed construction.
 6. Correction of the Work.
- B. See Division 1 Section for additional requirements

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 1. Before construction, verify the location and points of connection of utility services.

- B. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces, surroundings, and conditions.

3.02 PREPARATION

- A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect/Engineer and/or Construction Manager not less than two (2) days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect/Engineer's and/or Construction Manager written permission.

- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements

before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect/Engineer and/or Construction Manager. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.03 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

- E. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect/Engineer and/or Construction Manager.
 - 2. Allow for building movement, including thermal expansion and contraction.
- F. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- G. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.04 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - 3. Twice a week, for one (1) hour, all trades must stop work and do a full site clean-up, including picking up debris, sweeping, and if necessary, vacuuming and dusting areas that are complete.
- B. Site: Maintain Project site free of waste materials and debris.

- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Waste Disposal: Burying or burning waste materials on-site is not permitted. Washing waste materials down sewers or into waterways is not permitted.
- G. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- H. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- I. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.05 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.06 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.07 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. All repairs in any form will be at the expense of the responsible contractor and no costs shall occur towards the owner.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01 70 00

**SECTION 01 73 29
CUTTING AND PATCHING**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of each Prime Contract (Each Work Scope), including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for cutting and patching.
- B. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
- C. Requirements of this Section apply to all contractors. Each Contractor is responsible to patch any surface to match existing adjacent surfaces, resulting from any actions arising during the course of work. Refer to Mechanical and Electrical Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.
- D. See referenced specifications section for demolition of selected portions of the building for alterations.
- E. Execute cutting, fitting or patching of work required to:
 - 1. Make parts fit properly.
 - 2. Uncover work to provide for installation of ill-timed work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to requirements of Contract Documents.
 - 5. Remove samples of installed work as specified for testing.
 - 6. Install specified work in existing construction.
 - 7. Seal all openings through walls, partitions, floors, and roofs to prevent small animals and insects from entering.
- F. Do not endanger any surrounding work by cutting or altering work of your own.

1.3 SUBMITTALS

- A. Cutting and Patching Proposal: Where approval of procedures for cutting and patching is required before proceeding, submit a proposal describing procedures well in advance of the time cutting and patching will be performed and request approval to proceed. Include the following information, as applicable, in the proposal:
 - 1. Describe the extent of cutting and patching required and how it is to be performed; Indicate why it cannot be avoided.
 - 2. Describe anticipated results in terms of changes to existing construction; include changes to structural elements and operating components as well as changes in the

- building's appearance and other significant visual elements.
3. List products to be used and firms or entities that will perform work.
 4. Indicate dates when cutting and patching is to be performed.
 5. List utilities that will be distributed or affected, including those that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
 6. Where cutting and patching involves addition of reinforcement to structural elements, submit details and engineering calculations to show how reinforcement is integrated with the original structure.
 7. Approval by the Architect to proceed with cutting and patching does not waive the Architect's right to later require complete removal and replacement of a part of the Work found to be unsatisfactory.

1.4 QUALITY ASSURANCE

A. Requirements for Structural Work

1. Do not cut and patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.
2. Obtain prior approval of Owner and the Architect before cutting and patching the following structural elements:
 - a. Foundation construction
 - b. Bearing and retaining walls
 - c. Structural concrete and precast concrete
 - d. Structural steel
 - e. Lintels
 - f. Structural decking
 - g. Stair systems
 - h. Miscellaneous structural metals
 - i. Equipment supports
 - j. Piping, ductwork, vessels and equipment

B. Operational and Safety Limitations:

1. Do not cut and patch operating elements or safety-related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.
2. Obtain prior approval from Owner of the cutting and patching proposal before cutting and patching the following operating elements or safety-related systems:
 - a. Primary operational systems and equipment.
 - b. Air or smoke barriers
 - c. Water, moisture, or vapor barriers
 - d. Membranes and flashings
 - e. Fire detection / protection systems
 - f. Noise and vibration control elements and systems
 - g. Control systems
 - h. Communication systems
 - i. Conveying systems
 - j. Electrical wiring systems

C. Visual Requirements

1. Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually or structurally unsatisfactory manner.
2. If possible retain the original installer or fabricator to cut and patch the following categories of exposed Work, or if it is not possible to engage the original installer or fabricator, engage another recognized, experienced and specialized firm:
 - a. Processed concrete finishes
 - b. Ornamental metal
 - c. Matched-veneer woodwork
 - d. Window system
 - e. Stucco and ornamental plaster
 - f. Acoustical ceilings
 - g. Carpeting
 - h. Wallcovering
 - i. Roofing
 - j. HVAC enclosures, cabinets or covers

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Use materials that are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. Take corrective action before proceeding if unsafe or unsatisfactory conditions are encountered.

3.2 PREPARATION

- A. Temporary Support
 1. Provide temporary support of Work to be cut.
- B. Protection
 1. Protect existing construction during cutting and patching to prevent damage. Seal off areas to prevent dust transfer to adjacent areas. Provide protection from adverse weather conditions for portions of the Project that might be exposed during or after cutting and patching operations.
 2. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3. Coordinate timing of Work and noise generated by Work to minimize disruption to adjoining areas.
4. Take all precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

3.3 PERFORMANCE

A. General

1. Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
2. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

B. Cutting

1. Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible, review proposed procedures with the original installer; comply with the original installer's recommendations.
2. In general, where cutting is required, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
3. Observe all required OSHA Safety Precautions.
4. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
5. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.
6. Comply with requirements of applicable Sections of Division Two – where cutting and patching requires excavating and backfilling.
7. By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated or abandoned. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

C. Patching

1. Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
2. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
3. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
4. Where removal of walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wallcoverings and replace with new materials, if necessary, to achieve uniform color and appearance.

5. Where patching occurs in a smooth painted surface, extend final paint coat over the entire unbroken surface containing the patch, after the patched area has received primer and second coat.
6. Patch, repair, or re-hang existing ceilings as necessary to provide an even plane surface of uniform appearance.

3.4 CLEANING

- A. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Completely remove paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit, and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION 01 73 29

**SECTION 01 74 00
FINAL CLEANING**

PART 1 - GENERAL

1.1 APPLICABLE DOCUMENTS

- A. Drawings, Bidding Requirements, Conditions of the Contract and other Division 01 Specification Sections, apply to the work outlined in this Section.
- B. Phasing
 - 1. Final cleaning shall be scheduled and completed prior to Owner occupancy for each phase on a phased project.
- C. Related Sections
 - 1. Cleaning requirements specific to work specified in individual specification sections pertaining to that work.
 - 2. Section 01 50 00 Temporary Facilities and Controls

1.2 SUMMARY

- A. Provide qualified and sufficient personnel responsible for final cleaning of all areas (interior and exterior) impacted by new construction and/or renovation.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

- A. Only utilize cleaning materials recommended by manufacturer of product surface to be cleaned.
- B. Only utilize cleaning materials on surfaces recommended by the cleaning product material manufacturer.
- C. Mico-fiber Towels: New clean microfiber cleaning cloths for damp wiping on all surfaces.
 - 1. Cloths containing cotton or other non-microfiber blends will not be acceptable.
- D. Water: Clean, potable water is to be used.
- E. Vacuums: All vacuums utilized in final cleaning efforts must be HEPA rated.
 - 1. Vacuums shall be rated as a HEPA unit by the manufacturer and must carry a silver, gold or platinum rating as defined by the Carpet and Rug Institute.
 - a. Vacuum must be rated at a minimum of 100 inches of water lift.
 - b. HEPA filters shall be on the vacuum to maintain HEPA rating during use.

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- c. HEPA filters shall be manufactured for the vacuum being used
- d. Conventional vacuum equipment retrofitted with HEPA filters will not be acceptable.
- e. Filters shall be maintained and replaced when more than 2/3 full to maintain the vacuum's rated suction lift and dust capture.

PART 3 - EXECUTION

3.1 GENERAL

- A. Employ experienced workers or professional cleaners for final cleaning that are trained and qualified in the requirements for the final cleaning.
- B. If the personnel employed by the Contractor cannot meet the schedule and cleaning standards established in the Drawings and Specifications, in all or part, the Owner has the right to self-perform and/or hire cleaning crews as required to complete the work. All costs incurred by the Owner will be back-charged to the Contractor.
- C. Review requirements for completing final cleaning efforts and conditions that will affect the work.
- D. The Contractor shall coordinate cleaning efforts with the work of other Subcontractors and the Owner.
- E. Final Cleaning Coordination Meeting:
 - 1. The Contractor shall coordinate a final cleaning coordination meeting with ICS and Owner and Owner's other contractors two weeks prior to being on site.
 - a. The purpose of this meeting is to establish the phasing of areas to be final cleaned by the Contractor and review the requirements for the final cleaning and move-in.
 - 2. Contractor shall provide a detailed schedule, including a work plan, respective dates for area and task, quantity of personnel and tasks for the work.
- F. At completion of construction and renovation work, and just prior to acceptance or occupancy, conduct a final inspection of exposed interior and exterior surfaces.
 - 1. Perform adjustments and additional cleaning to meet Contract Document requirements.

3.2 EXTERIOR GROUNDS

- A. Rake clean grass, gardens, landscaping and other non-pavement surfaces of grounds around the building contaminated by project work or activities.
 - 1. Utilize magnets to remove all screws, nails and other metallic waste debris.
 - 2. Perform a visual survey to remove all non-metallic debris.
- B. All bituminous and exterior concrete pavement surfaces and curb and gutter systems shall be broom swept and pressure washed to remove all visible construction-related materials.

1. All driving surfaces must be cleaned by a professional street sweeping company utilizing equipment intended for this type of work. This includes at a minimum bus loops, parking lots and driveways to streets.
 2. Remove and dispose of material prior to its discharge into the storm sewer.
 3. Once cleaning of all paved areas and curb and gutter systems is complete, remove all Storm Water Pollution Prevention Plan (SWPPP) measures to ensure that the site drainage systems function properly.
- C. All Contractor dumpsters shall be removed from the site when full.

3.3 BUILDING EXTERIOR

- A. Exterior Surfaces
1. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from all exterior surfaces including, but not limited to, window and curtainwall framing/glazing, door systems, metal panel systems, light fixtures and other exposed items.
 2. Repair, patch and touch up or replace marred surfaces to match adjacent finishes. Refer to material's corresponding Specification Section for additional information on repair measures.
- B. Roof Systems
1. Pick up and remove all visible debris from construction activities including fasteners, insulation, pallets, paper, excess roofing materials and other items from the work.
 2. Clean roof drain screens and roof drain bowl assembly to ensure that all debris have been removed and no obstructions exist in the drain assembly.

3.4 BUILDING INTERIOR

- A. Clean all rooms including any tunnel systems within the zone from the bottom of the roof deck to the floors and wall surfaces involved in the construction area including:
1. HEPA Vac and wipe down all
 - a. Exposed Structures
 - b. Mechanical: exposed fire protection piping, hydronic and domestic piping; and ductwork
 - c. Electrical: light fixtures
 - d. Ceilings: lay-in ceiling grid and tiles; gypsum board soffits and clouds
 - e. Wall Surfaces: ceramic or porcelain tile, vinyl wallcovering, painted surfaces
 - f. Floor Surfaces: terrazzo, VCT, LVT, ceramic or porcelain tile, carpet
- B. Clean all exposed interior brick with clean potable water and/or cleaning agent approved for use on brick and interior applications utilizing a scrub brush and changing water every five linear feet of wall to prevent re-contamination of cleaned surfaces.
1. Rinse and remove contaminants
 2. Utilize exhaust and ventilation to ensure that areas are dry within 24 hours
 3. Utilize procedures to prevent water/cleaning agent damage to all adjacent surfaces
- C. Clean all terrazzo with soap clean water and scrubber machine.

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1. Clean terrazzo to remove all dirt or cleaning material residue
 2. Rinse with clean water until surfaces have no dust or chemical residue and final rinse water is clear.
- D. Remove all paint overspray, adhesives, dust contaminants and marks off flooring materials.
1. Double rinse with clean water to remove dust and chemical residue.
 2. See each specification section corresponding to flooring materials for specific cleaning and finishing requirements.
- E. Completely scrub down all tiled surfaces (i.e. toilet rooms) using clean soapy water and rinse all surfaces with clean water until dust and chemical residue is removed.
1. Prevent water or moisture related damage to the wall systems.
- F. HEPA vacuum all floors after all other cleaning activities are complete.
1. Coordinate the work to limit the need for access to the spaces being cleaned.
 2. Thoroughly HEPA vacuum carpeting that has been contaminated with dust or debris to remove all those materials from the carpet profile, including the carpet backing surface.
 3. If carpet has been stained, the Contractor may try to re-clean the carpet prior to proceeding with removal and replacement. Re-clean carpet that has become stained utilizing techniques recommended by the carpet manufacturer that are gold or platinum rated by the Carpet and Rug Institute and that are approved by the Architect/Engineer and that will remove stain and leave the carpet free of chemical residue of contaminants and free of any visible stains or other signs of degradation compared to new condition.
 4. Carpet installed in this project needs to be provided and retained in a new condition at the time of project completion.
 - a. Remove and replace carpet that is microbial contaminated, is soiled, is visibly stained, is contaminated or otherwise damaged by work or the carpet extraction process or that does not comply with the requirements of the Contract Documents as compared to the carpet in new condition.
- G. Replace all damaged, dirty, stained or marred ceiling tile.
- H. As applicable, the interiors of all HVAC units shall be completely HEPA vacuumed cleaned and wiped clean with clean micro-fiber cloths to remove all dust residue and other contaminants prior to operation.
1. If HVAC coil surfaces are contaminated with dust, or microbial contaminants, clean to remove the contamination.
 2. If liquids or water are utilized to assist with the cleaning, inspect to ensure that the unit surfaces are dry within 24 hours after wetting.
 3. Cleaning work shall be performed with utility procedures and materials that will prevent the release or dispersal of any dust or contaminants onto other surfaces in the HVAC system or in the building.
- I. The Owner may randomly check interior of air-handling equipment and ductwork.
1. If any visible dust or dirt exists within ductwork, the Contractor shall hire, at their expense, a professional duct cleaning company to clean all affected ducts to remove visible contamination.
 2. Cleaning shall occur with 10 days of notification

3. If the required cleaning does not occur, the Owner will have the identified equipment and/or ductwork cleaned and the cost will be deducted from the Contractor's contract.
- J. All mechanical units requiring filters shall have new filters installed after the cleaning process.
 1. Filters shall be the type (meeting with depth, size and filter efficiency requirements) specified.
 - K. Clean all chases in Custodial Rooms, Mechanical Rooms and Toilet Rooms in the area of work.
 1. Remove/scrape clean all mortar (without use of acids)/concrete debris, dust and general construction debris.
 2. HEPA vacuum clean to remove all dust.
 - L. HEPA vacuum all the surfaces in any tunnels after all construction is complete.

END OF SECTION 01 74 00

FINAL CLEANING

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SECTION 01 77 00

CLOSEOUT PROCEDURES

SUMMARY OF SECTION

- A. This Section specifies administrative and procedural requirements for the following, but not limited to:
 - 1. Operation, Maintenance and Emergency Manuals
 - 2. Project Record Procedures
 - 3. Closeout procedures
- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 49.

PART 1 - MANUALS

1.01 OPERATION AND MAINTENANCE MANUAL CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual specification sections to be reviewed at the time of respective Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Where applicable, clarify and update reviewed manual content to correspond to modifications and field conditions.
- B. Format: Submit operations and maintenance manuals in the following format:
 - 1. PDF electronic file. Assemble each manual into a composite electronically-indexed file. Submit on digital media acceptable to Architect.
 - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically-linked operation and maintenance directory.
 - b. Enable inserted reviewer comments on draft submittals.
- C. Initial Manual Submittal: Submit a draft copy of each manual at least 30 days before commencing demonstration and training. Architect and Commissioning Agent will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect and Commissioning Agent will return copy with comments.

1.02 PREPARATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Organization: Include a section in the directory for each of the following:
 - 1. List of documents.
 - 2. List of systems.

3. List of equipment.
 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of a system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.03 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Include the following information:
1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name and contact information for Contractor.
 6. Name and contact information for Architect.
 7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in the manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic

PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Enable bookmarking of individual documents based upon file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel upon opening file.

1.04 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:
 1. Type of emergency.
 2. Emergency instructions.
 3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 1. Fire.
 2. Flood.
 3. Gas leak.
 4. Water leak.
 5. Power failure.
 6. Water outage.
 7. System, subsystem, or equipment failure.
 8. Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
 1. Instructions on stopping.
 2. Shutdown instructions for each type of emergency.
 3. Operating instructions for conditions outside normal operating limits.
 4. Required sequences for electric or electronic systems.
 5. Special operating instructions and procedures.

1.05 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 2. Performance and design criteria if Contractor has been delegated design

- responsibility.
 - 3. Operating standards.
 - 4. Operating procedures.
 - 5. Operating logs.
 - 6. Wiring diagrams.
 - 7. Control diagrams.
 - 8. Piped system diagrams.
 - 9. Precautions against improper use.
 - 10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:
- 1. Product name and model number. Use designations for products indicated on Contract Documents.
 - 2. Manufacturer's name.
 - 3. Equipment identification with serial number of each component.
 - 4. Equipment function.
 - 5. Operating characteristics.
 - 6. Limiting conditions.
 - 7. Performance curves.
 - 8. Engineering data and tests.
 - 9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:
- 1. Startup procedures.
 - 2. Equipment or system break-in procedures.
 - 3. Routine and normal operating instructions.
 - 4. Regulation and control procedures.
 - 5. Instructions on stopping.
 - 6. Normal shutdown instructions.
 - 7. Seasonal and weekend operating instructions.
 - 8. Required sequences for electric or electronic systems.
 - 9. Special operating instructions and procedures.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed and identify color-coding where required for identification.

1.06 PRODUCT MAINTENANCE MANUALS

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or

schedule designation or identifier where applicable.

- C. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

1.07 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.

4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

1.08 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract

Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
1. Do not use original project record documents as part of operation and maintenance manuals.
 2. Comply with requirements of Owner for newly prepared record Drawings for "Project Record Documents."
- G. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

PART 2 – PROJECT RECORDS

2.01 ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS

- A. Administrative and procedural requirements for Project Record Documents.
1. Project Record Documents required include:
 - a. Marked-up copies of Contract Drawings.
 - b. Marked-up copies of Shop Drawings.
 - c. Newly prepared Drawings.
 - d. Marked-up copies of Specifications, addenda and Change Orders.
 - e. Marked-up Product Data submittals.
 - f. Record Samples.
 - g. Field records for variable and concealed conditions.
 - h. Record information on Work that is recorded only schematically.
 2. Maintenance of Documents and Samples: Store record documents and Samples in the field office apart from Contract Documents used for construction. Do not permit Project Record Documents to be used for construction purposes. Maintain record documents in good order, and in a clean, dry, legible condition. Always make documents and Samples available for inspection by the Architect.

2.02 RECORD DRAWINGS

- A. Mark-up Procedure: During the construction period, maintain a set of blue-line or black-line white-prints of Contract Drawings and Shop Drawings for Project Record documentation purposes.
1. Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements which would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
 - a. Dimensional changes to the Drawings.
 - b. Revisions to details shown on the Drawings.
 - c. Changes made by Change Order.
 - d. Details not on original Contract Drawings.
 2. Mark completely and accurately record on prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
 3. Mark record sets with red erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
 4. Mark important additional information which was either shown schematically or omitted from original Drawings.
 5. Note construction change directive numbers, alternate numbers, Change Order numbers and similar identification.
 6. Responsibility for Markup: Where feasible, the individual or entity who obtained record data, whether the individual or entity is the installer, subcontractor, or similar entity, is required to prepare the mark-up on record Drawings.
 - a. Accurately record information in an understandable Drawing technique.
 - b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
 - c. At time of Substantial Completion, submit record Drawings to Engineer/Architect or Construction Manager for the Engineer/Architect's approval. Upon Engineer/Architect's approval, the Drawings will then become the Owner's records. Organize into sets, bind and label sets for Owner's continued use.
 7. Preparation of Transparencies: Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up record Drawings with the Architect. When authorized, prepare a full set of corrected transparencies of Contract Drawings and Shop Drawings.
 - a. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date

each Drawing; include the printed designation "PROJECT RECORD DRAWINGS" in a prominent location on each Drawing.

- b. Refer instances of uncertainty to the Architect for resolution before submitting.
- c. One set of original Contract Drawings will be furnished to the Contractor by the Owner for use in recording changes and additional information. Other printing as required is the Contractor's responsibility.
- d. The Contractor is responsible for printing original Contract Drawings and other Drawings as required to produce transparencies. The Engineer/Architect will make original Contract Drawings available to the Contractor's print shop.
- e. Copies and Distribution: After completing the preparation of transparency record drawings, print two (2) blue-line or black-line prints of each Drawing, whether or not changes and additional information were recorded. Organize the copies into manageable sets. Bind each set with durable paper cover sheets, with appropriate identification, including titles, dates and other information on cover sheets.
 - (1) Organize and bind original marked-up set of prints that were maintained during the construction period in the same manner.
 - (2) Organize record transparencies into sets matching the print sets. Place these sets in durable tube-type Drawing containers with end caps. Mark the end cap of each container with suitable identification.
 - (3) Submit the marked-up record set, transparencies, and two (2) copy sets to the Architect for Owner's records; the Architect will retain one copy set.

2.03 RECORD SPECIFICATIONS

- A. During the construction period, maintain one (1) copy of the Project Specifications, including addenda and modifications issued, for Project Record Document purposes.
 - 1. Mark the Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installations that would be difficult to identify or measure and record later.
 - a. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 - 2. Upon completion of mark-up, submit record Specifications to the Architect for Owner's records.

2.04 RECORD PRODUCT DATA

- A. During the construction period, maintain one (1) copy of each Product Data submittal for Project Record Document purposes.
 - 1. Mark Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Product Data submitted. Include significant changes in the product delivered to the site, and changes in manufacturer's instructions and recommendations for installation.
 - 2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 3. Note related Change Orders and mark-up of record Drawings, where applicable.
 - 4. Upon completion of mark-up, submit a complete set of record Product Data to the Architect for the Owner's records.
 - 5. Where record Product Data is required as part of maintenance manuals, submit marked-up Product Data as an insert in the manual, instead of submittal as record Product Data.
 - 6. Each Contractor is responsible for mark-up and submittal of record Product Data for its own Work.

2.05 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Engineer/Architect's reference during normal working hours.
- B. Record Drawings: Maintain a clean, undamaged set of blue or black-line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date. See Section 01 30 00 Administrative Requirements for additional information on Record Drawings.
 - 1. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.
 - 2. Mark new information that is important to the Owner but was not shown on Contract Drawings or Shop Drawings.
 - 3. Note related Change Order numbers where applicable.
 - 4. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.

- C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual Work performed in comparison with the test of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observations. Note related record drawing information and Product Data.
1. Upon completion of the Work, submit record Specifications to the Architect for the Owner's records. See Section 01 30 00 Administrative Requirements for additional information on Record Drawings.
- D. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Engineer/Architect and/or Construction Manager for the Owner's records. See Section 01 30 00 Administrative Requirements for additional information on Record Drawings.

2.06 MISCELLANEOUS RECORD SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified, and bound or filed, ready for use and reference. Submit to the Engineer/Architect or Construction Manager for the Owner's records.
1. Categories of requirements resulting in miscellaneous records include, but are not limited to the following:
 - a. Field records on excavations and foundations.
 - b. Field records on underground construction and similar Work.
 - c. Survey showing locations and elevations of underground lines. Invert elevations of drainage piping.
 - d. Surveys establishing building lines and levels.
 - e. Authorized measurements utilizing unit prices or allowances. Records of plant treatment.
 - f. Ambient and substrate condition tests.
 - g. Certifications received in lieu of Labels on bulk products. Batch mixing and bulk delivery records.

- h. Testing and qualification of tradesmen.
- i. Documented qualification of installation firms.
- j. Load and performance testing.
- k. Inspections and certifications by governing authorities.
- l. Leakage and water-penetration tests.
- m. Fire resistance and flame spread test results.
- n. Final inspection and correction procedures.

2.07 RECORDING

- A. Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project. The Engineer/Architect and/or Construction Manager will periodically review record documents to assure compliance with this requirement.

PART 3 – COMPLETION AND FINAL CLEANING

3.01 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following: List exceptions in the request.
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - a. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 - 2. Advise Owner of pending insurance change-over requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
 - 4. Remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
- B. Inspection Procedures: On receipt of a request for inspection, the Engineer/Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Engineer/Architect will prepare the Certificate of Substantial Completion following

inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.

1. The Engineer/Architect will repeat inspection when requested and assured that the Work has been substantially completed.
2. Results of the completed inspection will form the basis of requirements for final acceptance.

3.02 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required. Conform to the requirements of Section 01 20 00 - Price and Payment Procedures.
2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
3. Submit a certified copy of the Engineer/Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Engineer/Architect.
4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion, or when the Owner took possession of and responsibility for corresponding elements of the Work.
5. Submit consent of surety to final payment.
6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Re-inspection Procedure: The Engineer/Architect will re-inspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Engineer/Architect.

1. Upon completion of re-inspection, the Engineer/Architect will prepare a certificate of final acceptance or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
2. If necessary, re-inspection will be repeated.

3.03 CLOSEOUT SUBMITTALS

- A. When the Owner has determined that the Work is acceptable under the Contract Documents and the Contract fully performed, Contractor shall prepare and submit final Application for Payment to the Engineer/Architect together with, but not limited to, the following:
1. Contractor's Affidavit of Payment of Debts and Claims, AIA Document G706 (most recent edition of form).
 2. Contractor's Affidavit of Release of Liens, AIA Document G706A (most recent edition of form).
 3. Contractor's Lien waiver in the full amount of the Contract Sum.
 4. Lien waivers from all subcontractors, sub-subcontractors and major material suppliers who have furnished material for the work under the contract with the Trade Contractor or a subcontractor. The lien waivers shall be in the full amount of the contract involved.
 5. Consent of Surety Company to Final Payment, AIA Document G707, (most recent edition of form).
 6. Affidavit for obtaining final settlement of Contract with the State of Minnesota and any of its Political or Governmental Subdivisions, Department of Revenue Form IC-134.
 7. Evidence of Compliance with requirements of governing authorities:
 - a. Certificate of Inspection from all required agencies and departments.
 - b. Certificate of Occupancy.
 8. Project Record Documents.
 9. Operating and Maintenance Data, Instructions to Owner's Personnel.
 10. Warranties and Bonds.
 11. Special tools required for Owner maintenance.
- B. Submit three (3) copies each of Items #1 through #5 above, and two (2) copies each of Items #6 and #7 above.

3.04 FINAL CLEANING

- A. The Contractors shall furnish all labor, materials, tools, equipment, and perform all work and services necessary for cleaning up required in conjunction with work performed, as shown on drawings and as specified, in accordance with provisions of the Contract Documents and completely coordinated with work of all other trades.
- B. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.

- C. Administrative and procedural requirements for final cleaning at Substantial Completion:
1. Special cleaning requirements for specific elements of the Work are included in appropriate Sections of Divisions 2 through 94.
 2. Multiple Prime Contracts: Except as otherwise indicated, each Prime Contractor is responsible for coordination of final cleaning where more than one Prime Contractor is involved in final cleaning a single area or piece of equipment.
 3. Environmental Requirements: Conduct cleaning and waste disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and anti-pollution regulations.
 - a. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains.
 - b. Burning or burying of debris, rubbish or other waste material on the premises is not permitted.
 - c. Cleaning Agents: Use cleaning materials and agents recommended by the manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property, or that might damage finished surfaces.

END OF SECTION 01 77 00

SECTION 01 78 00
PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 SUMMARY OF SECTION

- A. Project Record Documents

1.02 RELATED SECTIONS

- A. Section 01 30 00 - Administrative Requirements

- B. Section 01 77 00 - Closeout Procedures

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS

- A. Administrative and procedural requirements for Project Record Documents
 - 1. Project Record Documents required include:
 - a. Marked-up copies of Contract Drawings
 - b. Marked-up copies of Shop Drawings
 - c. Newly prepared Drawings
 - d. Marked-up copies of Specifications, addenda and Change Orders
 - e. Marked-up Product Data submittals
 - f. Record Samples

- g. Field records for variable and concealed conditions
 - h. Record information on Work that is recorded only schematically
2. Maintenance of Documents and Samples: Store record documents and Samples in the field office apart from Contract Documents used for construction. Do not permit Project Record Documents to be used for construction purposes. Maintain record documents in good order, and in a clean, dry, legible condition. Make documents and Samples available at all times for inspection by the Architect.

3.02 RECORD DRAWINGS

- A. Mark-up Procedure: During the construction period, maintain a set of blue- or black-line white-prints of Contract Drawings and Shop Drawings for Project Record Document purposes.
- 1 Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements which would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
 - a. Dimensional changes to the Drawings
 - b. Revisions to details shown on the Drawings
 - c. Changes made by Change Order
 - d. Details not on original Contract Drawings
 - 2. Mark completely and accurately record prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
 - 3. Mark important additional information which was either shown schematically or omitted from original Drawings.
 - 4. Note construction change directive numbers, alternate numbers, Change Order numbers and similar identification.
 - 5. Responsibility for Markup: Where feasible, the individual or entity who obtained record data, whether the individual or entity is the installer, subcontractor, or similar entity, is required to prepare the mark-up on record Drawings.
 - a. Accurately record information in an understandable Drawing technique.
 - b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
 - c. At time of Substantial Completion, submit record Drawings to Engineer/Architect or Owner's Representative for the Engineer/Architect's approval. Upon Engineer/Architect's

approval, the Drawings will then become the Owner's records. Organize into sets, bind and label sets for Owner's continued use.

6. Upon completion of all mark ups, the final Record Set is to be electronically scanned. The scanned version must be included in the closeout documents submitted on a flash drive or other electronic removable storage device. The hard copy is to be turned over to the owner for their records as well.

3.03 RECORD SPECIFICATIONS

- A. During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Document purposes.
 1. Mark the Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, and information on concealed installations that would be difficult to identify or measure and record later.
 - a. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 2. Upon completion of mark-up, submit record Specifications to the Architect for Owner's records.

3.04 RECORD PRODUCT DATA

- A. During the construction period, maintain one copy of each Product Data submittal for Project Record Document purposes.
 1. Mark Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Product Data submitted. Include significant changes in the product delivered to the site, and changes in manufacturer's instructions and recommendations for installation.
 2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 3. Note related Change Orders and mark-ups of record Drawings, where applicable.
 4. Upon completion of mark-up, submit a complete set of record Product Data to the Architect for the Owner's records.

5. Where record Product Data is required as part of maintenance manuals, submit marked-up Product Data as an insert in the manual, instead of submittal as record Product Data.
6. Each Contractor is responsible for mark-up and submittal of record Product Data for its own Work.

3.05 MISCELLANEOUS RECORD SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Engineer/Architect or Owner's Representative for the Owner's records.
 1. Categories of requirements resulting in miscellaneous records include, but are not limited to the following:
 - a. Field records on excavations and foundations.
 - b. Field records on underground construction and similar Work.
 - c. Survey showing locations and elevations of underground lines. Invert elevations of drainage piping.
 - d. Surveys establishing building lines and levels.
 - e. Authorized measurements utilizing unit prices or allowances. Records of plant treatment.
 - f. Ambient and substrate condition tests.
 - g. Certifications received in lieu of Labels on bulk products. Batch mixing and bulk delivery records.
 - h. Testing and qualification of tradesmen.
 - i. Documented qualification of installation firms.
 - j. Load and performance testing.
 - k. Inspections and certifications by governing authorities.
 - l. Leakage and water-penetration tests.
 - m. Fire resistance and flame spread test results.
 - n. Final inspection and correction procedures.

3.06 RECORDING

- A. Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project. The Engineer/Architect and/or Owner's Representative will periodically review record documents to assure compliance with this requirement.

END OF SECTION 01 78 00

SECTION 01 79 00

DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
 - 3. Demonstration and training video recordings.

1.2 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Alternatively, indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Attendance Record: For each training module, submit list of participants, length of instruction time, and instruction date.

1.3 CLOSEOUT SUBMITTALS

- A. Transcript: Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
- B. Transcript: Prepared in PDF electronic format. Include a cover sheet with same label information as the corresponding video recording and a table of contents with links to corresponding training components. Include name of Project and date of video recording on each page.
- C. At completion of training, submit complete training manual(s) for Owner's use [**prepared and bound in format matching operation and maintenance manuals**] OR [**in PDF electronic file format on a USB flash drive**].

1.4 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, experienced in operation and maintenance procedures and training. Contractor to:
 - 1. Inspect and discuss locations and other facilities required for instruction.
 - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
 - 3. Review required content of instruction.
 - 4. For instructions that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

- A. Coordinate instruction schedule with Owner and Construction Manager. Adjust schedule as required to minimize disruption of Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 - 1. Basis of System Design, Operational Requirements, and Criteria; Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.

- d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
2. Documentation: Review the following items in detail:
- a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project record documents.
 - e. Identification systems.
 - f. Warranties and bonds.
 - g. Maintenance service agreements and similar continuing commitments.
3. Emergencies: Include the following, as applicable:
- a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
- a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.

- f. Procedures for routine maintenance.
- g. Instruction on use of special tools.
- 8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 01 78 23 - "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

3.2 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- C. Scheduling: Provide instructions at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner, through Owners Representative with at least **[seven] (7)** days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.

3.3 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. General: Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Video: Provide minimum 640 x 480 video resolution converted to **[format file type acceptable to Owner]**, on electronic media.
 - 1. Electronic Media: Read-only format compact disc acceptable to Owner, with commercial-grade graphic label.

2. File Hierarchy: Organize folder structure and file locations according to project manual table of contents. Provide complete screen-based menu.
 3. File Names: Utilize file names based upon name of equipment generally described in video segment, as identified in Project specifications.
 4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the Equipment Demonstration and Training media that describes the following for each Contractor involved on the Project, arranged according to Project table of contents:
 - a. Name of Contractor/Installer.
 - b. Business address.
 - c. Business phone number.
 - d. Point of contact.
 - e. E-mail address.
- C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.
1. Film training session(s) in segments not to exceed 15 minutes.
 - a. Produce segments to present a single significant piece of equipment per segment.
 - b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
 - c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming, and pause training session. Begin training session again upon commencement of new filming segment.
 - d. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
 - e. Narration: Describe scenes on video recording by audio narration by microphone or dubbing audio narration off-site after video recording is recorded. Include description of items being viewed.
 - f. Transcript: Provide a transcript of the narration. Display images and running time captured from videotape opposite the corresponding narration segment.
 - g. Pre-produced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training.

END OF SECTION 01 79 00

SECTION 061000

ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sheathing.
- B. Miscellaneous framing and sheathing.
- C. Concealed wood blocking, nailers, and supports.
- D. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

- A. Applicable provisions of Division 1 shall govern the work of this section.
- B. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
- C. Section 01 74 19 - Construction Waste Management and Disposal: Proper disposal and recycling of waste materials.

1.03 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard; 2009.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2013a.
- D. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; National Institute of Standards and Technology, U.S. Department of Commerce; 2010.
- E. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology, Department of Commerce; 2010.
- F. WWPA G-5 - Western Lumber Grading Rules; Western Wood Products Association; 2011.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.
- C. LEED Submittals: Submit applicable LEED Submittal Form for each different product made of sustainably harvested wood, salvaged and reused wood, wood fabricated from recovered timber, as well as locally-sourced wood, as specified in Section 01 35 15.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. Species: Douglas Fir-Larch, unless otherwise indicated.
 - 2. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 3. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
- B. Lumber fabricated from old growth timber is not permitted.
- C. Provide sustainably harvested wood; see Section 01 60 00 for requirements.

- D. Lumber fabricated from recovered timber (abandoned in transit) is permitted, unless otherwise noted, provided it meets the specified requirements for new lumber and is free of contamination; identify source.

2.02 DIMENSION LUMBER

- A. Grading Agency: Western Wood Products Association (WWPA).
- B. Sizes: Nominal sizes as indicated on drawings, S4S.
- C. Moisture Content: S-dry or MC19.
- D. Stud Framing (2 by 2 through 2 by 6):
 - 1. Species: Any allowed under referenced grading rules.
 - 2. Grade: No. 2.
- E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

- A. Wall Sheathing: Any PS 2 type.
 - 1. Bond Classification: Exterior.
 - 2. Grade: Structural I Sheathing.
 - 3. Span Rating: 24.
 - 4. Edge Profile: Square edge.
- B. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.04 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 - 2. Anchors: Expansion shield and lag bolt type for anchorage to solid masonry or concrete.
- B. Bond Break: 15# asphalt impregnated felt.

PART 3 EXECUTION

3.01 PREPARATION

- A. Coordinate installation of rough carpentry members specified in other sections.
- B. Where wood framing is in contact with concrete or masonry, separate wood with No.15 felt bond break.

3.02 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Separate wood from concrete
- C. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.03 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fire-blocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

3.04 INSTALLATION OF CONSTRUCTION PANELS

- A. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails or screws.

- B. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
 - 1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
 - 2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
 - 3. Install adjacent boards without gaps.
 - 4. Size and Location: As indicated on drawings.

3.05 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.

3.06 CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01 74 19.
 - 1. Comply with applicable regulations.
 - 2. Do not burn scrap on project site.
 - 3. Do not burn scraps that have been pressure treated.
 - 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 07220

ROOF DECK AND INSULATION

PART 1 - GENERAL

SEE DETAILED ROOF DRAWINGS FOR SPECIFICS

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General Supplementary Conditions and Division 1 Specification Sections apply to this section.
- B. Related work specified elsewhere:
 - 1. Division 7 Section "Modified Bitumen Roofing."
 - 2. Division 7 Section "Flashing and Sheet Metal."
 - 3. Division 7 Section "Preparation for Roofing."

1.3 REFERENCES

| | |
|----------------|---|
| ASTM A-167-94a | Specification for Stainless and Heat-Resisting Chromium Nickel Steel Plate, Sheet and Strip |
| ASTM A-653 | Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanized) by the Hot-Dip Process |
| ASTM B-29 | Pig Lead |
| ASTM B-32 | Solder Metal |
| ASTM C-165-95 | Test Method for Measuring Compressive Properties of Thermal Insulation |
| ASTM C-208-95 | Specifications for Cellulosic Fiber Insulating Board |
| ASTM C-209-92 | Test Method for Cellulosic Fiber Insulating Board |
| ASTM C-272-91 | Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions |
| ASTM C-36 | Specification for Gypsum Wallboard |
| ASTM C-518-91 | Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus |
| ASTM C-578-92 | Specification for Rigid, Cellular, Polystyrene Thermal Insulation |
| ASTM C-728-91 | Specification for Perlite Thermal Insulation Board |
| ASTM D-5 | Test Method for Penetration of Bituminous Materials |
| ASTM D-36 | Test Method for Softening Point of Bitumen (Ring and Ball Apparatus) |
| ASTM D-312 | Specification for Asphalt Used in Roofing |
| ASTM D-412-92 | Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension |
| ASTM D-1621-94 | Test Method for Compressive Properties of Rigid Cellular Plastics |
| ASTM D-1622 | Test Method for Apparent Density of Rigid Cellular Plastics |
| ASTM D-1863 | Specification for Mineral Aggregate Used on Built-Up Roofs |
| ASTM D-2126-94 | Test Method for Response of Rigid Cellular Plastics to Thermal Humid Aging |
| ASTM D-2178 | Standard Specification for Asphalt Glass Felts used in Roofing and Waterproofing |
| ASTM D-4601-94 | Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing |
| ASTM D-5147 | Sampling and Testing Modified Bituminous Sheet Material |
| CISPI | Cast Iron Soil Pipe Institute, Washington, D.C. |
| FM | Factory Mutual System, Norwood, Massachusetts |
| NRCA | National Roofing Contractors Association, Chicago, IL |
| SMACNA | Sheet Metal and Air Conditioning Contractors National Association |
| SDI | Steel Deck Institute, St. Louis, Missouri |
| SPIB | Southern Pine Inspection Bureau, Pensacola, Florida |
| UL | Underwriter's Laboratories, Inc., Northbrook, Illinois |
| FS HH-I-1972 | Insulation Board, Polyisocyanurate |
| FS LLL-1-535B | Insulation Board, Thermal (Fiberboard) |
| WH | Warnock Hersey International, Inc., Middletown, Wisconsin |

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300 - Submittals.
- B. Product Data: Provide manufacturer's specification data sheets for each product in accordance with Section 01300.
- C. Provide approval letters from insulation manufacturer for use of their insulation within this particular roofing system type.

- D. Shop Drawings
 - 1. Submit shop drawings indicating complete installation details of tapered insulation system, including identification of each insulation block, sequence of installation, layout, drain locations, roof slopes, thicknesses, crickets and saddles.
 - 2. Shop drawing shall include: Outline of roof, location of drains, complete board layout of tapered insulation components, thickness and the average "R" value for the completed insulation system.
- E. Certification
 - 1. Submit roof manufacturer's certification that insulation fasteners furnished are acceptable to roof manufacturer.
 - 2. Submit roof manufacturer's certification that insulation furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.

1.5 QUALITY ASSURANCE

- A. Fire Classification, ASTM E-108
- B. Submit certification that the roof system furnished is approved by Factory Mutual, Underwriters Laboratories or Warnock Hersey for external Fire E-108 Class 1A.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.
- B. Store all insulation materials in a manner to protect them from the wind, sun and moisture damage prior to and during installation. Any insulation that has been exposed to any moisture shall be removed from the project site.
- C. Keep materials enclosed in a watertight, ventilated enclosure (i.e. tarpaulins).
- D. Store materials off the ground. Any warped, broken or wet insulation boards shall be removed from the site.

PART 2 - PRODUCTS

2.1 APPROVED EQUIVALENT

- A. Contractor must submit any product not specified to be considered for approval. The Owner's Representative will notify contractor in writing of decision to accept or reject request.

2.2 INSULATION MATERIALS

- A. Provide thicknesses of insulation as indicated, provide combination of types and thickness' to provide a complete system.

1. POLYISOCYANURATE ROOF INSULATION

- a. Qualities: Closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers.
 - 1. R-Value: Minimum 30 (entire Roof System), including existing insulation, new polyisocyanurate and wood fiber recovery board.
- b. Insulation board shall meet the following requirements
 - 1. UL, WH or FM listed under Roofing Systems
 - 2. Federal Specification HH-I-1972, Class 1
- c. Physical Properties

| | | |
|-----------------------|-------------|--------------------|
| Dimensional Stability | ASTM D-2126 | 2% max. |
| Compressive Strength | ASTM D-1621 | 20 psi min. |
| Vapor Permeability | ASTM E-96 | 1 perm max. |
| Foam Core Density | ASTM D-1622 | 2.0 pcf min. |
| Water Absorption | ASTM C-209 | <1% |
| R-Factor HR per inch | | |
| Thickness | ASTM C-518 | 5.6 (Design Value) |

2. HIGH DENSITY FIBERBOARD ROOF INSULATION

- a. Qualities: Rigid, composed of interlocking fibers factory blended treated with asphalt on the top side.
 1. Board Size: 4' x 8', 4' x 4', or 4' x 2'.
 2. Thickness: Minimum ½ in.
- b. Insulation board shall meet the following requirements
 1. UL, WH, FM listed under Roofing Systems.
 2. Federal Specification LLL-I-535-B.
- c. Physical Properties

| | | |
|--------------------------------|----------------|--------------------|
| Dry Density | ASTM C-208 | 17.5 pcf. |
| Compressive Strength | ASTM C-165 | 45 psi min. |
| Linear Expansion | ASTM C-208,209 | 0.5% max. |
| Foam Core Density | ASTM C-1622 | 2.0 pcf min. |
| Water Absorption | ASTM C-208 | 10% max. |
| R-Factor HR per inch Thickness | ASTM C-518 | 2.5 (Design Value) |

2.3 RELATED MATERIALS

- A. Fiber Cant and Tapered Edge Strips: Performed rigid insulation units of sizes/shapes indicated, matching insulation board or of perlite or organic fiberboard, as per the approved manufacturer.
- B. Protection Board: Pre-molded semi-rigid asphalt composition board ½ in.
- C. Roof Board Joint Tape: 6" wide glass fiber mat with adhesive compatible with insulation board facers.
- D. Asphalt: ASTM D-312, Type III Steep Asphalt.
- E. Fasteners
 1. Corrosion resistant screw fastener as recommended by roof membrane manufacturer.
 2. Factory Mutual Tested and Approved with 3 in. coated disc for 1-60 rating, length required to penetrate metal deck one inch.
 3. Minimum pull out resistance of 800 lbs.
 4. Olympic Style NTB Gyp deck fastener or approved equal.
 5. Olympic-Heavy Duty Fastener or approved equal.
 6. Simplex – Lite-Deck Fastener or approved equal.
 7. Any exposed fasteners shall be "White" in color or otherwise approved by the owner.

PART 3 – EXECUTION

3.1 INSPECTION OF SURFACES

- A. Roofing contractor shall be responsible for preparing an adequate substrate to receive insulation.
 1. Verify that work penetrating roof deck has been completed.
 2. Verify that wood nailers are properly and securely installed.
 3. Examine surfaces for defects, rough spots, ridges, depressions, foreign material, moisture, and unevenness.
 4. Do not proceed until defects are corrected.
 5. Do not apply insulation until substrate is completely dry.
 6. Broom clean substrate immediately prior to application.
 7. Use additional insulation to fill depressions and low spots that would otherwise cause ponding water.
 8. Verify that temporary roof has been completed.

3.2 INSTALLATION

A. **Attachment with Mechanical Fasteners.**

1. Approved insulation board shall be fully attached to the deck with an approved mechanical fastening system. As a minimum, the amount of fasteners shall be in accordance with manufacturer's recommendation for FM 1-60 approved system. Otherwise, a minimum of one fastener per four square feet shall be installed.

2. Filler pieces of insulation require at least two fasteners per piece if size of insulation is less than four square feet.
3. Spacing pattern of fasteners shall be as per manufacturer's recommendations to meet the FM requirements. Placement of any fastener from edge of insulation board shall be a minimum of three inches, and a maximum of six inches.
4. Minimum penetration into deck shall be as recommended by the fastener manufacturer. There is a one inch (1") minimum for metal, wood and structural concrete decks where not specified by the manufacturer. For gypsum and cement-wood fiber decks, penetration shall be determined from pull-out test results with a minimum penetration of one and one-half inches (1-1/2").
5. Gypsum and cementitious wood fiber decks: Where the roof deck is visible from the building interior, the contractor shall ensure no penetration of fasteners through underside of the deck. Any holes or spalling caused by fastener installation shall be repaired by the roofing contractor. Where the new roof system thickness exceeds an amount so that a minimum of 1-1/2" of penetration cannot be achieved with an Olympic NTB Fastener, or approved equivalent, then (and only then) toggle bolts may be used to secure installation to the deck.

B. Attachment using Hot asphalt.

1. Over the entire deck surface, prime concrete surfaces with asphalt primer at the rate of 1 (one) gallon per one hundred (100) square feet.
2. Embed one layer of rigid insulation board in solid moppings of hot asphalt at the rate and temperature recommended by insulation manufacturer. Stagger end joints of boards so all open joints will be eliminated. Walk in each piece of insulation and leave boards completely adhered to deck. Each insulation board shall be butt firmly against adjoining panels. All open joints shall be eliminated.
3. Approved recovery board one-half (1/2) inch thickness shall be installed over base tapered insulation using hot asphalt at the rate of approximately thirty (30) pounds per square.
4. All boards shall be cut and fitted where the roof deck intersects a vertical surface. The boards shall be cut to fit a minimum of one-quarter (1/4) inch away from the vertical surface.
5. Install no more insulation at one time than can be roofed on the same day.
6. Install temporary water cut-offs at completion of each day's work and remove upon resumption of work.
7. Cant Strips/Tapered Edge Strips: Install preformed forty five (45) degree cant strips at junctures of vertical surfaces. Provide preformed, tapered edge strips at perimeter of edges of roof that do not terminate at vertical surfaces and/or indicated on the drawings. Tape joints of insulation as per manufacturer's requirements.

3.3 CLEANING

- A. Remove debris and cartons from roof deck. Leave insulation clean and dry, ready to receive roofing membrane.

END OF SECTION

Section 074214

METAL WALL PANELS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This section includes pre-formed flat seam wall panel system complete with anchor clips, fasteners, flashing, and trim.
- B. Related Sections:
 - 1. Section 07 05 00 – Common Work Results for Thermal and Moisture Protection
- C. Related Work Specified Elsewhere:
 - 1. Division 05 Section – Structural Steel
 - 2. Division 05 Section – Steel Joists
 - 3. Division 05 Section – Cold Formed Metal Framing
 - 4. Division 05 Section – Metal Fabrications
 - 5. Division 06 Section – Rough Carpentry
 - 6. Division 07 Section – Roof and Deck Insulation
 - 7. Division 07 Section – Sheet Metal Flashing and Trim
 - 8. Division 07 Section – Above-Grade Vapor Barriers

1.3 REFERENCES

- A. American Iron and Steel Institute (AISI):
 - 1. Specification for the Design of Cold-Formed Steel Structural Members.
 - 2. American Society for Testing and Materials (ASTM): B.
 - 3. ASTM A240 Specification for Heat Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels: C.
 - 4. ASTM A792 Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
 - 5. ASTM A875 Specification for Steel Sheet, Zinc-5% Aluminum Alloy-Coated by the Hot-Dip Process.
 - 6. ASTM B209 Specification for Aluminum and Aluminum-Alloy Sheet and Plate
 - 7. ASTM B370 Specification for Copper and Sheet and Strip for Building Construction
 - 8. ASTM E283 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 - 9. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Air Pressure Differences
 - 10. ASTM E331 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference
- B. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
 - 1. Architectural Sheet Metal Manual

1.4 SUBMITTALS FOR REVIEW

- A. Shop Drawings: Show wall panels (and roofing system, if applicable) with flashings and accessories in elevations, sections and details. Include metal thickness and finishes, panel lengths, joining details, anchorage details, flashings and special fabrication provisions for termination and penetrations. Indicate relationships with adjacent and interfacing work. Indicate fastener types and spacing; and provide fastener pullout values. Shop drawings must be completed by the wall panel manufacturer's engineering department. Any and/or all changes recommended by the successful bidder must be approved by the manufacturer in writing prior to submittal.
- B. Product Data: Include manufacturer's detailed material and system description, concealed anchor clips, sealant and closure installation instructions, and finish specifications. Indicate fastener types and spacing; and required fastener pullout values.

- C. Samples: Provide full-size samples of the following materials and system components. Samples shall be of identical material type, thickness, panel width, and material grade/ alloy as the system specified for this project.
 - 1. Submit sample of panel section, at least 4" long x full panel width showing panel profile and also a sample of color selected.
 - 2. Submit sample of foam closure strips to fit inside and outside specified panel profile.
 - 3. Submit sample of panel fasteners.
- D. Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.
- E. Any material submitted as equal to the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the state in which the installation is to take place. This report shall show that the submitted equal meets the Design and Performance criteria in this specification. Substitution requests submitted without licensed engineer approval will be rejected for non-conformance.

1.5 SUBMITTALS FOR INFORMATION

- A. Design and Test Reports: Provide the following certified test reports from an independent testing laboratory:
 - 1. Independent laboratory testing report for system design load and seam integrity.
 - 2. A letter from an officer of the manufacturing company certifying that the materials furnished for this project are the same as represented in tests and supporting data.
 - 3. Manufacturer's verifications that the panels are factory roll formed.
 - 4. ASTM E283 Test results must clearly demonstrate compliance with the performance requirements specified in article 1.9 ASTM E331 Test Report.
 - 5. ASTM E330 Test results must clearly demonstrate compliance with the performance requirements specified in article 1.9.
 - 6. ASTM E331 Test results must clearly demonstrate compliance with the performance requirements specified in article 1.9.
- B. Mill production reports certifying that the metal thicknesses are within allowable tolerances of the nominal or minimum thickness or gauge specified.
- C. Design Loads: Submit copy of manufacturer's minimum design load calculations according to ASCE 7, Method 2 for Components and Cladding. In no case shall the design loads be taken to be less than those detailed in Design and Performance Criteria article.
- D. Qualification Data for Wall System Installer: Refer to Quality Assurance Article below.
- E. Certification of work progress inspection frequency: Refer to Quality Assurance Article below.
- F. Pre-installation Conference Proceedings: Refer to Quality Assurance Article below.
- G. Test Reports: Submit third party validation of environmental claims, prepared by UL Environment, for all metal wall panels containing recycled content and/or bio based content.

1.6 CONTRACT CLOSEOUT SUBMITTALS

- A. General: Comply with Requirements of Division 01 Section Closeout Submittals.
- B. Special Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.
- C. Wall Panel Maintenance Instructions: Provide a manual of manufacturer's recommendations for maintenance of installed systems.
- D. Insurance Certification: Assist Owner in preparation and submittal of wall panel installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on wall panel system installation and associated work.
- E. Demonstration and Training Schedule: Provide a schedule of proposed dates and times for instruction of Owner's personnel in the maintenance requirements for completed work. Refer to Part 3 for additional requirements.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an Installer who has completed the Manufacturer's Approved Contractor course and is currently certified for the installation of the specified system.
- B. If required, fabricator/installer shall submit work experience and evidence of adequate financial Responsibility. The Owner's representative reserves the right to inspect fabrication facilities in determining qualifications.
- C. Source Limitations: Obtain all components of the wall panel system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the Manufacturer.
 - 1. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.
 - 2. Manufacturer shall have direct authority and control over all fabrication of steel components as well as the raw materials used in their fabrication.
- D. Source Quality Control: Manufacturer shall have in place a documented, standardized quality control program such as ISO-9001 approval.
- E. Engage the Manufacturer's Field Representative to conduct required periodic inspections of work in progress as described herein and shall furnish written documentation of all such inspections.
- F. Manufacturer shall provide the Owner project with a written statement that they will provide a site inspection every [1] days that confirms that the project is being constructed as specified, by an experienced, full time employee of the company.
- G. Alternate Manufacturers: The following manufacturer criteria must be submitted. Alternate systems will not be considered for approval unless each of these items has been submitted for review at least 10 business days prior to bid opening.
 - 1. Submit each item listed in article 1.4 (A through E) for evaluation of the proposed system.
 - 2. Tests shall have been made for identical systems within the ranges of specified performance criteria.
 - 3. Empirical calculations for wall performance shall only be acceptable for positive loads.
 - 4. A list of a minimum of five (5) jobs where the proposed alternate material was used under similar conditions. The reference list shall include date of project, size of project, project address, and telephone number of architect/owner contact.
 - 5. A financial statement demonstrating a minimum of a 3:1 ratio of assets to liabilities.
 - 6. A written statement from the manufacturer stating that they will provide the building owner with a daily site inspection for a minimum of one (1) hour per day by an experienced, full time employee of the company.
 - 7. A written statement from the manufacturer stating that they will provide the engineer of record with a daily site inspection by an experienced full time employee of the company.
 - 8. A written statement from a corporate officer of the manufacturing company stating that he or she has reviewed the specifications and confirms that the proposed system meets or exceeds all performance requirements listed as well as meets the panel size, gauge, weight, clip design, sealant design, uplift pressures and height of the vertical seam.
 - 9. A copy of manufacturer's warranty.
 - 10. Proof that the manufacturer has been in business for a minimum number of years equal to the warranty period required for this project.

1.8 PRE-INSTALLATION CONFERENCE

- A. Convene a pre-installation conference approximately two (2) weeks before scheduled commencement of system installation and associated work.
- B. Require attendance of installer of each component of associated work which must precede or follow wall panel work (including mechanical or electrical work if any), Architect, Owner, system manufacturer's representative, and other representatives directly concerned with performance of the Work, including (where applicable) Owner's insurers, testing agencies and governing authorities.
- C. Objectives of conference to include:

1. Review foreseeable methods and procedures related to work, including set up and mobilization areas for stored material and work area.
 2. Tour representative areas of building, inspect and discuss condition of substrates, penetrations and other preparatory work performed by others.
 3. Review structural loading limitations of wall framing and inspect for unacceptable variations in planarity.
 4. Review system requirements (drawings, specifications and other contract documents).
 5. Review required submittals both completed and yet to be completed.
 6. Review and finalize construction schedule related to work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
 7. Review required inspection, testing, certifying and material usage accounting procedures.
 8. Review weather and forecasted weather conditions and procedures for unfavorable conditions, including possibility of temporary wall protection (if not mandatory requirement).
 9. Record discussion of conference including decisions and agreements (or disagreements) reached. Furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
 10. Review notification procedures for weather or non-working days.
- D. The Owner's Representative will be designate one of the conference participants to record the proceedings and promptly distribute them to the participants for record.
- E. The intent of the conference is to resolve issues affecting the installation and performance of wall panel work. Do not proceed with work until such issues are resolved the satisfaction of the Owner and Engineer of Record. This shall not be construed as interference with the progress of Work on the part of the Owner or Engineer of Record.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Manufacturer's Responsibilities:
1. All panels shall be shipped from the manufacturer with a strippable film or similar packaging material separating the individual panels to minimize flexing, stressing, scratching or otherwise damaging the material during transit to the job.
 2. Fully cover steel with tarpaulins or similar protective cover during transit to prevent dirt and debris from coming in contact with the finished goods.
- B. Installer's Responsibilities:
1. Stack pre-finished materials to prevent twisting, bending, abrasion and denting and elevate one end to facilitate moisture run-off.
 2. Unload wall panels using a boom or crane, supporting the panels in at least two locations during lifting, and never lift more than three panels at a time.
 3. Protect moisture-sensitive materials and water-based from the weather.
 4. Inspect materials upon delivery. Reject and remove physically damaged or marred material from project site.

1.10 PROJECT CONDITIONS

- A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage and protection requirements for wall panel system.
1. Protection:
 - a. Protect completed work from subsequent construction operations. Comply with Manufacturer's recommendations.
 - b. Do not encumber the site with stored materials or equipment.
 - c. Do not support wall-mounted equipment directly on the wall panel system.
- B. Ascertain that work of other trades which penetrates the wall or is to be made watertight by the wall is in place an approved prior to installation.

1.11 DESIGN AND PERFORMANCE CRITERIA

- A. Thermal Expansion and Contraction:
 - 1. Completed metal wall panel and flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.
 - 2. The design temperature differential shall be not less than <insert design temperature differential [200] °F.
 - 3. Interface between panel and clip shall provide for unlimited thermal movement in each direction along the longitudinal direction.
- B. Uniform wind load capacity:
 - 1. Installed wall panel system shall withstand negative design wind loading pressures complying with the following criteria. Anchor clips shall be installed exactly as specified in article 3.
 - a. Design Code: ASCE 7, Method 2 for Components and Cladding.
 - b. Safety Factor: 1.67 after any load reduction or material stress increase.
 - c. Category III Building with an Importance Factor of 1.00.
 - d. Wind Speed: 120 mph
 - e. Ultimate Pullout Value: 626 pounds per each of the two fasteners holding the panel anchor to the wall substrate or framing system.
 - f. Exposure Category: C.
 - g. Wall Height: 4 feet.
 - h. Minimum Building Width: 322 feet.
Wall Area Design Wind Pressure:
Zone 4 – Field of wall 18.7 psf.
Zone 5 – Wall Corners 23 psf.
 - 2. Capacity shall be determined using uniform static air pressure method in accordance with ASTM E330. Allowable safe working loads shall be determined by dividing the ultimate test load by the safety factor specified above.
- C. ASTM E283: Static pressure air infiltration (doors, windows, curtain walls):
 - 1. Pressure Leakage Rate
 - a. 12.0 PSF 0.062 cfm/sq. ft.
- D. ASTM E330: Uniform static load test for structural performance for 1 ½” panel profile:
Test results must provide an allowable pressure of no less than:
 - 1. 42 lbs/sqft. For 3’-0” spans
 - 2. 52 lbs/sqft for 1’-0” span
- E. ASTM E331: Static pressure water infiltration (doors, windows, curtain walls):
 - 1. Pressure Result:
 - a. 5 Gal./Hr. per S.F. and Static No Leakage
 - b. Pressure of 20.0 Psf. For 15 minutes.

1.12 WARRANTIES

- A. Manufacturer shall execute a single warranty covering of the following criteria. Multiple-source warranties are not acceptable.
 - 1. Manufacturer’s ten 10 year watertight warranty.
 - 2. Manufacturer’s standard thirty 30 year finish warranty covering checking, crazing, peeling, chalking, fading, or adhesion.
 - 3. Installer’s five 5 year warranty covering metal wall panel/rainscreen system installation and watertightness.
 - 4. Warranties shall commence on date of Substantial Completion.

1.13 MANUFACTURER’S INSPECTIONS

- A. When the project is in progress, the wall panel system manufacturer will inspect the work not less than 3 days per week. In addition, the manufacturer will:
 - 1. Keep the Owner informed as to the progress and quality of the work as observed.
 - 2. Provide periodic job site inspections a minimum of [3] days per week.
 - 3. Confirm after completion that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

PART 2 – PRODUCTS

2.1 PRODUCTS, GENERAL

- A. Refer to Division 01 Section “Common Product Requirements.”
- B. Basis of Design: Materials, manufacturer’s product designations, and/or manufacturer’s names specified here in shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- C. Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 01 provisions.
 - 1. Proposals shall be accompanied by a copy of the manufacturer’s standard specification section. That specification section shall be signed and sealed by a professional engineer licensed in the state in which the installation is to take place. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
 - 2. Include a list of three (3) projects of similar type and extent, located within a one hundred mile radius from the location of the project. In addition, the three projects must be at least five (5) years old and be available for inspection by the Architect, Owner or Owner’s Representative.
 - 3. Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
 - 4. The Owner’s decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.

2.2 ACCEPTABLE MANUFACTURERS

- A. The design is based upon R-MER Wall Pan wall panel systems engineered and manufactured by

The Garland Company
3800 East 91st Street
Cleveland, Ohio 44105
Telephone: (800) 762-8225
Website: www.garlandco.com
- B. Site Formed Panels: Bidder will not be allowed to supply panels formed at the job-site on portable roll formers; metal panels must be factory pre-manufactured and engineered for this project.

2.3 METAL WALL PANEL SYSTEM

- A. General
 - 1. The products, quality, and performance criteria specified shall be regarded as the minimum standard of quality required for the project.
 - 2. Basis of Design: R-MER Wall Pan System manufactured by The Garland Company, Cleveland, OH.
- B. Materials
 - 1. Panel material: 22 ga. Zinc-Coated (Galvanized) Steel Sheet, as per ASTM A653: G90 (Z275) coating designation; structural quality, grade 40 ksi (275 MPa).
 - 2. Flashing and flat stock material: Fabricate in profiles indicated on drawings of same material, thickness, and finish as wall panel system, unless indicated otherwise.
- C. Finish on surfaces:
 - A. Exposed surfaces for coated panels:
 - a. Two coat coil applied, baked-on full-strength (70% resin) fluorocarbon coating system (polyvinylidene fluoride, PVF2), applied by manufacturer’s approved applicator.
 - b. Coating system shall provide nominal 1.0 mil dry film thickness, consisting of primer and color coat.
 - c. Color shall be GARLAND - TBD.Color: Color shall be to be selected by the owner.
 - B. Unexposed surfaces for coated panels shall be baked-on polyester coating with .20 - .30 dry film thickness (TDF).

- C. Exposed and unexposed surfaces for uncoated panels shall be as shipped from the mill.
- D. Characteristics:
 - 1. Fabrication: Panels shall be factory roll-formed from the specified metal. Field rolled panels will not be allowed.
 - 2. Configuration: Interlocking flush/flat seams incorporating concealed anchor clips. Through fastened or exposed fastener systems are not acceptable.
 - 3. Panel seam legs shall be one and one half (1 ½) inch nominal concealed depth behind the panel face. Seam shall allow for expansion and contraction of panels due to thermal changes.
 - 4. Anchor clips: Clips shall be 22 gauge galvanized steel designed to allow thermal movement of the panel in each direction along the longitudinal dimension.
 - 5. Panel Width (Seam Spacing): 12" nominal.
 - 6. Panel lengths: Full length without joints to the extent as is practical. Profile of the panel face shall be flat and free from any mechanical finishes.
- E. Accessories:
 - 1. Fasteners:
 - a. Concealed fasteners: Corrosion resistant steel screws, #12 x 1" long, pancake head, Phillips drive. Use self-drilling, self-tapping for metal substrate or A-point for plywood substrate.
 - 2. Provide all miscellaneous accessories for complete installation.

2.4 FIELD-INSTALLED THERMAL INSULATION

- A. Refer to Division 07 Section 072113 "Thermal Insulation."
- B. Basalt rock and slag mineral fiber board insulation, Type IV-B in accordance with ASTM C612.

2.5 MISCELLANEOUS METAL FRAMING

- A. Miscellaneous Metal Framing, General: ASTM C 645, cold-formed metallic-coated steel sheet, ASTM A 653, G90 (Z275) hot-dip galvanized
- B. Horizontal Hat-shaped Vented Girts, as manufactured by metal wall panel manufacturer:
 - 1. Dimensions:
 - a. Nominal Thickness: 0.043-inch (18 gauge) (1.1-mm) nominal thickness.
 - b. Depth: 1-inch (22 mm) nominal
 - c. Top flange: 2-5/8 inches (63.5 mm) nominal.
 - d. Bottom Flanges: 1-1/2 inches (38 mm) nominal with ¼ inch (6 mm) holes punched at 8" on center in each flange.
 - 2. Free air flow: The vented girt shall not restrict chimney effect air convection in the vertical direction. The vented girt webs shall have slotted holes providing for 31% free air flow and weep holes for water drainage.
 - 3. Drainage: Web segments of vented girt shall be formed such that when installed in the horizontal orientation the web segments are inclined at least 15 degrees from horizontal to promote drainage and prevent retention of standing water.
- C. Fasteners for Metal Subframing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten miscellaneous metal subframing members through insulation and sheathing boards into structural wall framing or substrates.

2.6 SUBSTRATE BOARD

- A. Glass-Mat Gypsum Sheathing Board: ASTM C 1177/C 1177M.
 - 1. Type and Thickness: [Regular, ½ inch (13 mm)] [Type X, 5/8 inch (16 mm)].
 - 2. Product: Subject to compliance with requirements, provide Dens Glass Gold by Georgia-Pacific Corporation.
- B. Substrate-Board Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FMG 4470, designed for fastening substrate board to structure

2.7 AIR BARRIER MATERIALS

- A. Refer to Division 072610 "Water-resistant self-adhering sheet air, water and vapor barrier in exterior wall assemblies."
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. R-Mer Seal by The Garland Company of Cleveland, OH
- B. Refer to Division 072620 "Water-resistant fluid-applied air, vapor and water barrier in exterior wall assemblies."

2.8 WALL PANEL ACCESSORY PRODUCTS

- A. Sealant:
 - 1. Concealed Sealant: ASTM C 1311: Butyl-Based, Solvent-Release, One-Part Sealant.
- A. Wall Panel Accessories: Provide components provided by panel manufacturer and as required for a complete metal wall panel assembly including trim, corner units, closures, clips, flashings, sealants, gaskets, fillers, and similar items. Match material and finish of metal wall panels unless otherwise indicated.
 - 1. Anchor Clips: Clips shall be 18 gauge [galvanized] [stainless] steel designed to allow thermal movement of the panel in each direction along the longitudinal dimension.
 - 2. Spline Strip at Vertical Reveal: At the vertical reveal joint sheet metal spline material shall be provided in the same material type and finish as the metal cladding panels for all visible space at the reveal joint. Spine strip material thickness shall be as recommended by manufacturer based on installation tolerances.
 - 3. Corner Units: Provide factory fabricated mitered corner units of the same profile(s) as specified. Corner units shall be furnished for outside and inside corner conditions.
 - 4. Ventilation strips shall be provided at top of wall panels, window sills, and transitions between metal panels and other exterior finish materials to allow for air exhaust at top of wall cavity. Vent strips shall be internally baffled to prevent wind driven rain from freely entering the wall cavity.
 - 5. Ventilation strips shall be provided at base of wall panels, window head, and transitions between metal panels and other exterior finish materials to allow for air intake and water weep holes at bottom of wall cavity.

2.9 FABRICATION

- A. Shop fabricate metal panels and flashing components to the maximum extent possible, forming metal work with clear, sharp, straight, and uniform bends and rises. Hem exposed edges of flashings.
- B. Form flashing components from full single width sheet in minimum ten (10'-0") feet sections. Provide shop fabricated, mitered corners, joined using closed end pop rivets and joint sealant.
- C. Fabricate panels and related sheet metal work in accordance with approved shop drawings and applicable standards.
- D. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.
 - 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - 2. Sealed Joints: Form nonexpanding but moveable joints in metal to accommodate butyl-based sealant to comply with SMACNA standards.
 - 3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
 - 4. Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA's "Architectural Sheet Metal Manual" or by metal wall panel manufacturer for application, but not less than thickness of metal being secured.

2.10 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Prevent unpainted metals from contact with oils or solvents, including fingerprints, which may cause staining of the natural finishes.
- D. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 – EXECUTION

3.1 EXECUTION, GENERAL

- A. Comply with requirements of Division 01 Section "Common Execution Requirements."

3.2 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal wall panel supports, and other conditions affecting performance of the work.
- B. Examine primary and secondary wall framing to verify that girts, studs, angles, channels, and other structural panel support members and anchorage have been installed within alignment tolerances required by metal wall panel manufacturer.
- C. Examine solid wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal wall panel manufacturer.
- D. Examine roughing-in for components and systems penetrating metal wall panels to verify actual locations of penetrations relative to seam locations of metal wall panels before metal wall panel installation.
- E. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 PREPARATION

- A. Clean substrates harmful to insulation, including removing projections capable of interfering with insulation attachment.
- B. Establish straight, side and crosswise benchmarks.
- C. All walls shall be checked for square and straightness. Inside and outside corners may not be plumb; set a true line for the corner flashing with string line.
- D. Measurement the wall lengthwise to confirm panel lengths and verify clearances for thermal movement.

3.4 METAL SUBFRAMING INSTALLATION

- A. Install metal subframing directly over continuous thermal insulation. Metal subframing shall attach to the structural wall elements with screw fasteners. Metal subframing shall be spaced as necessary to accommodate the required clip spacing for the metal cladding panels.
- B. Attachments shall be as recommended by the metal claddings system manufacturer's approved shop drawings.

3.5 INSTALLATION GENERAL

- A. Install wall system when the atmospheric dry bulb temperature is minimum forty (40) degrees Fahrenheit and rising.
- B. Install all components of the wall system in exact accordance with the manufacturer's standard published procedures as applicable to these project conditions and substrates.

3.6 WALL PANEL INSTALLATION

- A. Comply with all details and install wall panel materials and flashings in accordance with approved Manufacturer's details and manufacturer's product data within specified erection tolerances.
- B. Isolate dissimilar metals and masonry or concrete from metals with bituminous coating. Use gasketed fasteners where required to prevent corrosive action between fastener, substrate, and panels.
- C. Limit exposed fasteners to extent indicated on details
- D. Seal laps and joints in accordance with system manufacturer's product data.
- E. Installed system shall be true to line and plane and free of dents, and physical defects. In light gauge panels with wide flat surfaces, some oil canning may be present. Oil

canning does not affect the finish or structural integrity of the panel and is therefore not cause for rejection.

- F. Form joints in linear sheet metal to allow for one fourth (1/4) inch minimum expansion at twenty (20'-0") feet on center maximum and eight (8'-0") feet from corners.
- G. At joints in linear sheet metal items, set sheet metal items in two (2) one fourth (1/4) inch beads of butyl sealant. Extend sealant over all metal surfaces. Mate components for positive seal. Allow no sealant to migrate onto exposed surfaces.

3.7 CLEANING

- A. Clean installed work in accordance with the manufacturer's instructions.
- B. Replace damaged work than cannot be restored by normal cleaning methods

3.8 CONSTRUCTION WASTE MANAGEMENT

- A. Remove and properly dispose of waste products generated during construction. Comply with requirements of authorities having jurisdiction.

3.9 FINAL INSPECTION

- A. At completion of installation and associated work, meet with Contractor, Owner, system manufacturer's representative, and other representatives directly concerned with performance of system.
- B. Inspect work and flashing of penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. Repair or replace deteriorated or defective work found at time above inspection as required to a produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- D. Notify the Owner upon completion of corrections.
- E. Following the final inspection, provide written notice of acceptance of the installation from the system manufacturer.
- F. Immediately correct leakage during construction. If the Contractor does not respond within twenty four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

3.10 DEMONSTRATION AND TRAINING

- A. At a time and date agreed to by the Owner, instruct the Owner's facility manager, or other representative designated by the Owner, on the following procedures:
 1. Troubleshooting procedures
 2. Notification procedures for reporting leaks or other problems
 3. Maintenance
 4. The Owner's obligations for maintaining the warranty in effect and force
 5. The Manufacturer's obligations for maintaining the warranty in effect and force.

END OF SECTION

Section 075520

MODIFIED BUILT UP ROOF SYSTEM

PART 1 – GENERAL

- 1.1 Modified bituminous Built-Up-Roof System including but not limited to:
 1. Insulation.
 2. MODIFIED BUR MEMBRANE, 105 mil SBS (Styrene Butadiene-Styrene) rubber modified roofing membrane reinforced with a fiberglass scrim and polyester mat.
 3. MINERAL SURFACE MODIFIED BUR MEMBRANE, 155-mil SBS rubber modified roofing membrane reinforced with a fiberglass/polyester scrim, recycled slag mineral surface.
 4. Asphaltic aluminum finished, Non-fibered asphalt aluminum roof coating for smooth & mineral surfaces
 5. MODIFIED BUR MEMBRANE, 120 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing membrane reinforced with a fiberglass scrim.
 6. Base flashing shall incorporate 155-mil SEBS (Styrene-Ethylene-Butylene-Styrene)/ SBS (Styrene-Butadiene-Styrene), hot mop rubber modified, recycled slag mineral surfaced flashing membrane, Modified membrane shall include post consumer and post industrial recycled materials in its' manufacture.
 7. Flood Coat and #8 washed roofing gravel.
 8. Sheathing, vapor barrier and other associated materials, (Only where indicated.)
 - B. Provide all labor, equipment, and materials to install the roof system over the properly prepared substrate.
- 1.2 RELATED SECTIONS
 - A. Drawings and general provisions of the Contract, including General Supplementary Conditions and Division 1 Specification Sections apply to this section.
 - B. Related work specified elsewhere:
 1. Section 06100 - "Rough Carpentry" for wood blocking and nails.
 2. Section 07620 - "Sheet Metal Flashing and Trim"
 3. Section 07220 - "Roof Deck & Insulation"
 - 1.3 SUBMITTALS
 - A. Submit under provisions of Section 01300-Submittals.
 - B. Submit certification that the roof system furnished is approved by Factory Mutual, Underwriters Laboratories, or Warnock Hersey for external fire E-108 Class 1A and that the roof system is adhered properly to meet or exceed 1-90.
 - C. Submit certification that the roof system furnished meets local or nationally recognized building codes for Class A Fire Rating.
 - D. Provide a product data sheet for each type of product specified including 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.
 - E. For all modified bituminous sheet roofing, include independent test data according to ASTM designation D-5147-91 "Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material", substantiating that materials comply with specified requirements.
 - F. Show evidence that the products and materials are manufactured in the United States and that materials provided conform to all requirements specified herein, and are chemically and physically compatible with each other and are suitable for inclusion within the total roof system specified herein.
 - G. Show evidence that the Installer specializes in modified bituminous roof application with a

minimum 5 years experience and whom the roofing system manufacturer as certifies qualified to install manufacturer's roofing materials. **A copy of the manufacturer's certification is also required.**

- H. Provide a sample of each product. All samples shall be a minimum of 12" X 12" in size.
- I. Unexecuted Manufacturer's warranty.
- J. Certified copy of ISO 9001 compliance.
- K. Sample of roofing aggregate.
- L. Any deficiencies in performance, warranty terms or improper submittal procedure will constitute grounds for immediate rejection of alternate.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Roofing system manufacturer shall have a minimum of 25 years experience in manufacturing modified bitumen roofing products in the United States and be ISO 9001 certified.
- B. Installer Qualifications: Installer (Roofer) shall be specializing in modified bituminous roof application with minimum 5 years experience and who is certified by the roofing system manufacturer as qualified to install manufacturer's roofing materials.
- C. It is the intent of this specification to provide a roof system with an external fire rating. The descriptions given below are general descriptions. The insulation, recovery board, and other components shall be required by the membrane manufacturer to provide a Class A fire resistance rating.
- D. Installer's Field Supervision: Require Installer to maintain a full-time Supervisor/Foreman on job site during all phases of bituminous sheet roofing work and at any time roofing work is in progress, proper supervision of workmen shall be maintained. A copy of the specification shall be in the possession of the Supervisor/Foremen and on the roof at all times. The same foreman shall remain on the job from start to final completion.
- E. It shall be the Contractor's responsibility to respond immediately to correction of roof leakage during construction. If the contractor does not respond within 24 hours, the Owner has the right to hire a qualified contractor and back charge the original contractor.
- F. Insurance Certification: Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.
- G. Pre-application Roofing Conference: Approximately 2 weeks before scheduled commencement of modified bitumen roof system installation and associated work meet at project site with installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in the around roofing must precede or follow roofing work (including mechanical work if any), Construction Manager/Architect/Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of the Work, including (where applicable) Owner's insurers, test agencies and governing authorities.
Objectives to include:
 1. Review foreseeable methods and procedures related to roofing work.
 2. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by other trades.
 3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
 4. Review roofing system requirements (drawings, specifications and other contract documents).
 5. Review required submittals both completed and yet to be completed.
 6. Review and finalize construction schedule related to roofing work and verify availability of materials, Installer's personnel, equipment and facilities needed to make progress and avoid delays.
 7. Review required inspection, testing, certifying and material usage accounting procedures.
 8. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not mandatory requirement).
 9. Record (contractor) discussion of conference including decisions and agreements (or disagreements) reached and furnish copy of record to each party attending. If

- substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
10. Review notification procedures for weather or non-working days.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.
- B. Store and handle roofing sheets in a dry, well-ventilated, weather-tight place to ensure no possibility of significant moisture exposure. Store rolls of felt and other sheet materials on pallets or other raised surface. Stand all roll materials on end. Cover roll goods with a canvas tarpaulin or other breathable material (not polyethylene).
- C. Do not leave unused materials on the roof overnight or when roofing work is not in progress unless protected from weather and other moisture sources.
- D. It is the responsibility of the contractor to secure all material and equipment on the job site. If any material or equipment is stored on the roof, the contractor must make sure that the integrity of the deck is not compromised at any time. Damage to the deck caused by the contractor will be the sole responsibility of the contractor and will be repaired or replaced at his expense.
- E. Roofing Contractor shall take all necessary precautions to limit the amount of "Asphalt" fumes on the job site. Precautions shall include, but not be limited to:
 1. Asphalt Delivery by Tankers only (No Kettles Allowed)
 2. Insulated Pipes Required to Roof Top Delivery
 3. "Wind Screens" erected around Tanker if necessary.
 4. Insulated Asphalt Lugers for short term transport on the roof.
 5. Insulated Asphalt Dispensers (Felt Layers) for application.

1.6 PROJECT CONDITIONS

- A. Weather Condition Limitations: Do not apply roofing membrane during inclement weather or when a 30% chance of precipitation is expected.
- B. Do not apply roofing insulation or membrane to damp deck surface.
- C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- D. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- E. All slopes of greater than 1-1/2:12 require back-nailing to prevent slippage of the ply sheets. Use ring or spiral shank one (1) inch cap nails, or screws and plates at a rate of one (1) fastener per ply (including the modified membrane) at each insulation stop. Place insulation stops at 16 ft o.c. for slopes less than 3:12 and four (4) ft o.c. for slopes greater than 3:12. On non-insulated systems, nail each ply directly into the deck at the rate specified above. When slope exceeds 1 1/2:12, install all plies parallel to the slope (strapping) to facilitate back nailing. Install four (4) additional fasteners at the upper edge of the modified bitumen sheet when strapping the plies.

1.7 SEQUENCING AND SCHEDULING

- A. Sequence installation of modified bituminous sheet roofing with related units of work specified in other sections to ensure that roof assemblies including roof accessories, flashing, trim and joint sealers are protected against damage from effects of weather, corrosion and adjacent construction activity.
- B. All work must be fully completed on each day. **Phased construction will not be accepted.**

1.8 MANUFACTURER'S REQUIREMENTS & SERVICES

- A. **Project Management** - All on site project management duties by the roof system manufacturer must be completed by an actual employee of the manufacturer and may not be subcontracted to an outside source. For example: consultants, product representatives, dealers, etc. are not acceptable.
 1. Conduct an additional preconstruction meeting with the owner, architect,

roofing contractor, sheet metal contractor in order to layout all expectations and requirements of the project. This shall be completed by the roofing manufacturer at least two weeks prior to start of the project. Provide daily on site inspections to insure proper application of the roof system by the roofing contractor.

2. Take photographic record of all conditions as related to the work on a daily basis and keep all photographs and provide to the owner upon request.
3. Perform a final walk of all roof areas prior to installation of the gravel surfacing.
4. Perform additional on site inspections during the installation of sheet metal copings & counterflashings. Additional photographs will be supplied to the owner upon request.
5. Perform a final inspection of all roof surfaces including low slope, metal wall panels, copings & counterflashings once the project is 100% complete by the roofing contractor.
6. Create a separate punch list for the owner / architect on all roofing / metal related issues that need to be corrected in order to complete the project.
7. Provide a final letter of completion to the owner / architect upon completion of the project. The letter must clearly explain that all of the work was conducted according to the manufacturer's warranty requirements.
8. Upon request the roof system manufacturer shall provide a weekly progress report to the owner/architect.

B. Annual District Wide Inspection Services

1. The new roof systems shall be inspected twice per year by the roof system manufacturer throughout the entire length of the warranty.
2. All roof areas on all school district buildings shall be physically inspected twice per year by the roof system manufacturer of this project.
3. On call services - throughout the year the roof system manufacturer of this year's project must provide leak response services to the district. This includes performing on site investigation and solutions as required to resolve the issues.
4. Upon request attend facility committee meetings, school board meetings or general meetings in order to facilitate the Districts roofing needs.
5. Upon request provide the District with an internet based program to view all of their roofing inventory, past project photos, warranties, etc.

C. Warranty of Roof System

1. The new roof system shall have a 30 Year No Dollar Limit Warranty. This must include both materials and labor on the project. The warranty can not be limited. All annual services listed above must also be included as part of this project at no additional cost to the owner.
2. The warranty shall include all low slope roofing, metal wall panels and metal copings & counterflashings.
3. There can only be one manufacturer for both the low slope roofing and the metal wall panels, copings & counterflashings. The same manufacturer must make and warranty all products as related to this project.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- C. Garland Company, Inc. (The), which is located at: 3800 E. 91st St. ; Cleveland, OH 44105; Toll Free Tel: 800-321-9336.

2.2 HOT APPLIED MODIFIED ROOF ASSEMBLY

- A. Base Ply Sheet: One (1) Ply - 120 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a dual fiberglass reinforced scrim, performance

requirements according to ASTM D 5147.

- B. Modified Cap Sheet: One (1) Ply - 105 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing membrane with a fiberglass/polyester reinforced scrim and superior low temperature capabilities. ASTM D 6162, Type III
- C. Modified Cap Sheet: One (1) Ply - 155 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing membrane with fiberglass/polyester reinforced scrim and superior low temperature capabilities. Surfaced with the highly reflective Sunburst white mineral. ASTM D6162, Type III. ASTM D 5147.
- D. Roof Coating: Non-fibered, asphalt aluminum roof coating for smooth & mineral surfaces.
 - a. 0.5 - 0.75 gal./sq. (Two coats required)
 - b. Meets requirements of ASTM D 93, ASTM D 1475, ASTM D 2824
 - c. Wet film thickness: 16 mils
- E. InterPly Adhesive: Type III Asphalt: Hot Bitumen, ASTM D 312, Type III steep asphalt having the following characteristics:
 - a. Softening Point 185 degreesF - 205 degreesF
 - b. Flash Point 500 degreesF
 - c. Penetration @ 77 degreesF 15-35 units
 - d. Ductility @ 77 degreesF 2.5 cm
- D. Flashing Base Ply: One (1) Ply - 40 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet with dual fiberglass reinforced scrim. Performance requirements according to ASTM D 5147
- E. Flashing Cap (Ply) Sheet: One (1) Ply -155 mil SBS and SIS (Styrene-Butadiene-Styrene and Styrene-Isoprene-Styrene) rubber modified membrane incorporating post consumer recycled rubber, fire retardant additives and reinforced with a fiberglass and polyester composite scrim. Surfaced with the highly reflective Sunburst white mineral. ASTM D 6162, Type III Grade G
- F. Flashing Ply Adhesive: Type III Asphalt: Hot Bitumen, ASTM D 312, Type III steep asphalt having the following characteristics:
 - a. Softening Point 185 degreesF - 205 degreesF
 - b. Flash Point 500 degreesF
 - c. Penetration @ 77 degreesF 15-35 units
 - d. Ductility @ 77 degreesF 2.5 cm

2.3 ACCESSORIES:

- A. Roof Insulation: In accordance with Section 07220.
- B. Flashing Boot - Rubbertite Flashing Boot: Neoprene pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended and furnished by the membrane manufacturer.
- C. Vents and Breathers: Heavy gauge aluminum and fully insulated vent that allows moisture and air to escape but not enter the roof system as recommended and furnished by the membrane manufacturer.
- D. Pitch pans, Rain Collar 24 gauge stainless or 20oz (567gram) copper. All joints should be welded/soldered watertight. See details for design.
- E. Drain Flashings should be 4lbs (1.8kg) sheet lead formed and rolled.
- F. Plumbing stacks should be 4lbs (1.8kg) sheet lead formed and rolled.
- G. Liquid Flashing - Tuff-Flash: An asphaltic-polyurethane, low odor, liquid flashing material

designed for specialized details unable to be waterproofed with typical modified membrane flashings.

1. Tensile Strength, ASTM D 412: 400 psi
 2. Elongation, ASTM D 412: 300%
 3. Density @77 degreesF 8.5 lb/gal typical
- H. Fabricated Flashings: Fabricated flashings and trim are specified in Section 07620.
1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the CDA Copper Development Association "Copper in Architecture - Handbook" as applicable.
- I. Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are specified in Section 07710.
1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the NRCA "Roofing and Waterproofing Manual" as applicable.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Inspect and approve the deck condition, slopes and fastener backing if applicable, parapet walls, expansion joints, roof drains, stack vents, vent outlets, nailers and surfaces and elements.
- C. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- D. If substrate preparation and other conditions are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. General: Clean surfaces thoroughly prior to installation.
 1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
 2. Fill substrate surface voids that are greater than 1/4 inch wide with an acceptable fill material.
 3. Roof surface to receive roofing system shall be smooth, clean, free from loose gravel, dirt and debris, dry and structurally sound.
 4. Wherever necessary, all surfaces to receive roofing materials shall be power broomed and vacuumed to remove debris and loose matter prior to starting work.
 5. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.
 6. Fasteners and plates for fastening components mechanically to the substrate shall provide a minimum pull-out capacity of 300 lbs. (136 k) per fastener. Base or ply sheets attached with cap nails require a minimum pullout capacity of 40 lb. per nail.
 7. Prime decks where required, in accordance with requirements and recommendations of the primer and deck manufacturer.
- B. Metal Deck: Metal deck shall be installed as specified in Section
 1. Fastening of the deck should comply with the anticipated live and dead loads pertaining to the building as well as applicable Code.
 2. Steel decks shall be minimum 22-gauge factory galvanized or zinc alloy coated for protection against corrosion.
 3. Suitable insulation shall be mechanically attached as recommended by the insulation manufacturer.

3.3 INSTALLATION - GENERAL

- A. Install modified bitumen membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.
- B. General: Avoid installation of modified bitumen membranes at temperatures lower than 40-45 degrees F. When work at such temperatures unavoidable use the following precautions:
 - 1. Take extra care during cold weather installation and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. Use extra care at material seam welds and where adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
 - 2. Unrolling of cold materials, under low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40 degrees F at the time of application. If the membrane roll becomes stiff or difficult to install, it must be replaced with roll from a heated storage area.
- C. Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water

3.4 INSTALLATION HOT APPLIED ROOF SYSTEM

- A. Base/Felt Ply: Install base sheet or felt plies in twenty five (25) lbs (11.3kg) per square of bitumen shingled uniformly to achieve one or more plies over the entire prepared substrate. Shingle in direction of slope of roof to shed water on each area of roof. Do not step on base rolls until asphalt has cooled, fish mouths should be cut and patched.
 - 1. Lap ply sheet ends 8 inches (203 mm). Stagger end laps 2 inches (304mm) minimum.
 - 2. Install base flashing ply to all perimeter and projection details after membrane application.
 - 3. Extend plies 2 inches beyond top edges of cants at wall and projection bases.
 - 4. Install base flashing ply to all perimeter and projection details.
 - 5. Allow the one ply of base sheet to cure at least 30 minutes before installing the modified membrane. However, the modified membrane must be installed the same day as the base plies.
- B. Modified Cap Ply: Solidly bond the modified membrane to the base layer with specified material at the rate of 25 to thirty 30 lbs. (11-13kg) per 100 square feet.
 - 1. Roll must push a puddle of hot material in front of it with material slightly visible at all side laps. Use care to eliminate air entrapment under the membrane. Exercise care during application to eliminate air entrapment under the membrane.
 - 2. Apply pressure to all seams to ensure that the laps are solidly bonded to substrate.
 - 3. Install subsequent rolls of modified membrane as above with a minimum of 4 inch (101 mm) side laps and 8 inch (203 mm) end laps. Stagger end laps. Apply membrane in the same direction as the previous layers but stagger the laps so they do not coincide with the laps of the base layers.
 - 4. Apply hot material no more than 5 feet (1.5 m) ahead of each roll being embedded.
 - 5. Extend membrane 2 inches (50 mm) beyond top edge of all cants in full moppings of the specified hot material.
- C. Fibrous Cant Strips: Provide non-combustible perlite or glass fiber cant strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives, hot asphalt or mechanically attached with approved plates and fasteners.
- D. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06114.
 - 1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
 - 2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.

3. Nailer lengths should be spaced with a minimum 1/8 inch gap for expansion and contraction between each length or change of direction.
 4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1- 49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs/lineal foot in any direction.
- E. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07620 or Section 07710. Install in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.
- F. Termination Bar: Provide a metal termination bar or approved top edge securement at the terminus of all flashing sheets at walls and curbs. Fasten the bar a minimum of 8 inches (203 mm) o/c to achieve constant compression. Provide suitable, sealant at the top edge if required.
- G. Flashing Base Ply: Install flashing sheets by the same application method used for the base ply.
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
 2. Prepare all walls, penetrations, expansion joints and surfaces to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
 3. Adhere to the underlying base flashing ply with specified hot material unless otherwise noted in these specifications. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
 4. Solidly adhere the entire sheet of flashing membrane to the substrate.
 5. Seal all vertical laps of flashing membrane with a three-course application of trowel-grade mastic and mesh.
 6. Coordinate counter flashing, cap flashings, expansion joints, and similar work with modified bitumen roofing work as specified.
 7. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work.
- H. Flood Coat/Aggregate:
1. Install after cap sheets and modified flashing, tests, repairs and corrective actions have been completed and approved.
 2. Apply flood coat materials in the quantities recommended by the manufacturer.
 3. Uniformly embed aggregate in the flood coat of cold adhesive at a rate recommended by the manufacturer.
 4. Aggregate must be dry and placed in a manner required to form a compact, embedded overlay. To aid in embedment, lightly roll aggregate.
- I. Flashing Cap Ply: Install flashing cap sheets by the same application method used for the base ply.
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
 2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
 3. Adhere to the underlying base flashing ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
 4. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
 5. Coordinate roof accessories, miscellaneous sheet metal accessory items with the roofing system work.
 6. All stripping shall be installed prior to flashing cap sheet installation.
 7. Heat and scrape granules when welding or adhering at cut areas and seams to granular surfaces at all flashings.
 8. Secure the top edge of the flashing sheet using a termination bar only when the wall

surface above is waterproofed, or nailed 4 inches on center and covered with an acceptable counter flashing.

3.5 INSTALLATION EDGE TREATMENT AND ROOF PENETRATION FLASHING

- A. Scupper Through Wall (Overflow):
1. Inspect the nailer to assure proper attachment and configuration.
 2. Run one ply over nailer up the overflow, into the scupper hole and up flashing as in typical wall flashing detail. Assure coverage of all wood nailers.
 3. Install scupper box in a 1/4 inch (6 mm) bed of mastic. Assure all box seams are soldered and have a minimum 4 inch (101 mm) flange. Make sure all corners are closed and soldered. Prime scupper at a rate of 100 square feet per gallon and allow to dry.
 4. Fasten flange of scupper box every 3 inches (76 mm) o.c. staggered.
 5. Strip in flange scupper box with base flashing ply covering entire area with 6 inch (152 mm) overlap on to the field of the roof and wall flashing.
 6. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all seams.
- B. Surface Mounted Counterflashing/Coping Cap:
1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
 2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
 3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to field of roof.
 4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all seams and allow to cure and aluminize.
 5. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall. Alternatively use caulk to replace the butyl tape.
 6. Secure counterflashing set on butyl tape above flashing. Fasten 8 inches (203 mm) o.c. and caulk top of counterflashing.
 7. Attach tapered board to top of wall (minimum slope 1/4 -12). Do not use organic fiberboard or perlite.
 8. Cover tapered board and all exposed wood with base flashing ply. Fasten inside and out at 8 inches (203 mm) o.c.
 9. Install continuous cleat and fasten at 6 inches (152 mm) o.c. to outside wall.
 10. Install new metal coping cap hooked to continuous cleat.
 11. Fasten inside of cap 24 inch (609 mm) o.c. with approved fasteners and neoprene washers.
- C. Exhaust Fan:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
 2. Set cant in bitumen. Run all plies over cant a minimum of 2 inches (50 mm).
 3. Install base flashing ply covering curb with 6 inches (152 mm) on to field of the roof.
 4. Install a second ply of modified flashing ply installed over the base flashing ply, 9 inches (228 mm) on to field of the roof. Attach top of membrane to top of wood curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
 5. Install metal exhaust fan over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendation.
- D. Passive Vent/Air Intake:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
 2. Set cant in bitumen. Run all plies over cant a minimum of 2 inches (50 mm).
 3. Install base flashing ply covering curb with 6 inches (152mm) on to the field of the roof.

4. Install a second ply of modified flashing ply installed over the base flashing ply, 9 inches (228 mm) on to field of the roof. Attach top of membrane to top of wood curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
 5. Install passive vent/air intake over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendations.
- E. Roof Drain:
1. Plug drain to prevent debris from entering plumbing.
 2. Taper insulation to drain minimum of 24 inches (609 mm) from center of drain.
 3. Run roof system plies over drain. Cut out plies inside drain bowl.
 4. Set lead/copper flashing (30 inch square minimum) in 1/4 inch bed of mastic. Run lead/copper into drain a minimum of 2 inches (50 mm). Prime lead/copper at a rate of 100 square feet per gallon and allow to dry.
 5. Install base flashing ply (40 inch square minimum) in bitumen.
 6. Install modified membrane (48 inch square minimum) in bitumen.
 7. Install clamping ring and assure that all plies are under the clamping ring.
 8. Remove drain plug and install strainer.
- F. Plumbing Stack:
1. Minimum stack height is 12 inches (609 mm).
 2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
 3. Prime flange of new sleeve. Install properly sized sleeves set in 1/4 inch (6 mm) bed of roof cement.
 4. Install base flashing ply in bitumen.
 5. Install membrane in bitumen.
 6. Caulk the intersection of the membrane with elastomeric sealant.
 7. Turn sleeve a minimum of 1 inch (25 mm) down inside of stack.

3.6 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.7 FIELD QUALITY CONTROL

- A. Inspection: Provide manufacturer's field observations at start-up and at intervals of approximately 30 percent, 60 percent and 90 percent completion. Provide a final inspection upon completion of the Work.
 1. Warranty shall be issued upon manufacturer's acceptance of the installation.
 2. Field observations shall be performed by a Technical Representative employed full-time by the manufacturer and whose primary job description is to assist, inspect and approve membrane installations for the manufacturer.
 3. Provide observation reports from the Technical Representative indicating procedures followed, weather conditions and any discrepancies found during inspection.
 4. Provide a final report from the Technical Representative, certifying that the roofing system has been satisfactorily installed according to the project specifications, approved details and good general roofing practice.

3.8 CLEANING

- A. Remove drippage of bitumen adhesive from all walls, windows, floors, ladders and finished surfaces.
- B. In areas where finished surfaces are soiled by asphalt or any other sources of soiling caused by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their instructions.

3.9 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Installer, installer of associated work, Owner, representatives of the roof system Manufacturer, and other representatives directly concerned with performance of roofing system.
- B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party attending.
- C. The roofing system Manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided by the Roofing Contractor at a negotiated price.
- D. If core cuts verify the presence of damp or wet materials, the Roofing Contractor shall be required to replace the damaged areas at his own expense.
- E. Repair or replace (as required) deteriorated or defective work found at time above inspection to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- F. The Contractor is to notify the Owner upon completion of corrections.
- G. Following the final inspection, acceptance will be made in writing by the material manufacturer.

END OF SECTION

SECTION 07565

PREPARATION FOR RE-ROOFING

PART 1 - GENERAL

1.1 SCOPE OF WORK

SEE DETAILED ROOF DRAWINGS FOR SPECIFICS

1.2 PRE-CONSTRUCTION MEETING

- A. To Be Scheduled Prior to Tear-Off
- B. Review installation procedures and coordination required with related work.

3. ENVIRONMENTAL REQUIREMENTS

- A. Do not remove existing roofing system or damaged decking when weather conditions threaten the integrity of the building contents or intended continued occupancy. Maintain continued temporary protection prior to installation of the new roofing system.

1.4 PROTECTION

- A. It shall be the Contractor's responsibility to respond immediately to correction of roof leakage during construction. A four (4) hour time limit shall be given from the time of notification of emergency conditions. In the event of water penetration during rain or a storm, the Contractor shall provide for repair or protection of the building contents and interior. If the Contractor does not respond or cannot be contacted, the Owner will effect repairs or emergency action and the Contractor shall be back charged for all expenses and damages, if any.

1.5 SCHEDULING

- A. Schedule work to coincide with commencement of installation of new roofing system.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Temporary protection: Sheet Polyethylene. Provide weights or fasteners to retain sheeting in position.
- B. Base Sheet: ASTM D-4601 Type II. Provide weights or fasteners to retain sheeting in position.

PART 3 - EXECUTION

3.1 EXAMINATION

The Roofing Contractor is to verify existing site conditions, including roof dimensions.

- A. The Roofing Contractor must verify that the existing roof surface is clear and ready for work of the section.

3.2 MATERIALS REMOVAL

- A. Remove all gravel, membrane, cant strips, rigid insulation as specified, expansion joints, base flashings, and any other items shown on the drawings. In addition, complete removal of all nails and other debris is required to leave a smooth, even surface for re-roofing.
- B. Under certain conditions, it will be necessary and desirable to incorporate one or more of the following methods for removal of dirt, silt, gravel, debris, roof membrane and insulation from the roof surface in order to preserve the ecology, eliminate unsightly conditions, and protect the building surfaces:
 - 1. Roof vacuum systems.
 - 2. Crane and hopper with dump truck system.
 - 3. Enclosed chutes with protective shrouds on the building and ground surfaces.

- C. All debris dumped from the roof shall be transported from the roof via chutes into dumpsters or trucks and this debris shall be removed from the premises when vehicles are full at the Contractors cost. No debris shall be transported from the area being worked on over a previously finished roof without an underlayment of $\frac{3}{4}$ " plywood and 1" rigid insulation.
- D. All roof equipment not in use or left filled will be parked on the column lines on $\frac{3}{4}$ " plywood.
- E. Building and/or ground damage caused by the removal or installation of the roof system will be the sole responsibility of the Contractor.

3.3 TEMPORARY PROTECTION

- A. Provide temporary protective sheeting over uncovered deck and insulation surfaces.
- B. Turn sheeting up and over parapets and curbing. Retain sheeting in position with weights or temporary fasteners.
- C. Provide for surface drainage from sheeting to existing drainage facilities.
- D. Do not permit traffic over unprotected deck surface.

END OF SECTION

SECTION 07600

FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 SCOPE OF WORK:

- A. Provide all labor, equipment, and materials fabricate and install the following.
 - 1. Edge strip and flashing.
 - 2. Fascia, scuppers, and trim.
 - 3. Counterflashings over bituminous base flashing.
 - 4. Counterflashings for roof accessories.
 - 5. Counterflashings at roof mounted equipment and vent stacks.
 - 6. Base flashing coverings.
 - 7. Coping cap at parapets.
 - 8. Expansion joint and area divider covers.
 - 9. Panelized wall covering systems
 - 10. Fascia and edge metal.
 - 11. Counterflashings at walls and penetrations.

1.2 RELATED SECTIONS

- A. Drawing and general provisions of the Contract, including General Supplementary Conditions and Division 1 Specification Sections, Apply to this Section.
- B. RELATED SECTIONS
 - 1. Section 07550 - Modified Bitumen Roofing

1.3 REFERENCES

| | |
|-------------|--|
| ASTM A-446 | Specification for steel sheet |
| ASTM B-209 | Specification for aluminum sheet |
| ASTM B-221 | Specification for aluminum extruded shape |
| FS QQ-L-201 | Specification for Lead Sheet |
| ASTM A792 | Steel Sheet, Aluminum-Zinc Alloy-Coated, by the Hot-Dip Process |
| ASTM B32 | Solder Metal |
| ASTM B209 | Aluminum and Alloy Sheet and Plate |
| ASTM B486 | Paste Solder |
| ASTM D226 | Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing |
| ASTM D486 | Asphalt Roof Cement, Asbestos-free |
| FS O-F-506 | Flux, Soldering, Paste and Liquid |
| WH | Warnock Hersey International, Inc. Middleton, WI. |
| FM | Loss Prevention Data Sheet |
| NRCA | National Roofing Contractors Association - Roofing Manual |
| SMACNA | Architectural Sheet Metal Manual |

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300 - Submittals.
- B. Product Data: Provide manufacturer's specification data sheets for each product in accordance with Section 01300.
- C. Provide approval letters from metal manufacturer for use of their metal within this particular roofing system type.
- D. Submit two samples, 12 x 12 inch in size illustrating typical external corner, internal corner, valley, junction to vertical dissimilar surface, material and finish.
- E. Shop Drawings
 - 1. For manufactured and shop fabricated gravel stops, fascia, scuppers, and all other sheet metal fabrications.
 - 2. Shop drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashing, termination's, and installation details.
 - 3. Indicate type, gauge and finish of metal.
- F. Certification
 - 1. Submit roof manufacturer's certification that metal fasteners furnished are acceptable to roof manufacturer.
 - 2. Submit roof manufacturer's certification that metal furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.

3. Submit certification that metal and fastening system furnished is Tested and Approved by Factory Mutual for I-90 Wind Up-Lift Requirements.
 - B. Manufacturer's Product Data
 1. Metal material characteristics and installation recommendations.
 2. Submit color chart prior to material ordering and/or fabrication so that equivalent colors to those specified can be approved.
- 1.5 QUALITY CONTROL
- A. Reference Standards
 1. Comply with details and recommendations of SMACNA Manual for workmanship, methods of joining, anchorage, provisions for expansion, etc.
 2. Factory Mutual Loss Prevention Data Sheet 1-49 windstorm resistance 1-90.
 - B. Manufacturer's Warranty
 1. Pre-finished metal material shall require a written 20-year non-prorated warranty covering fade, chalking and film integrity. The material shall not show a color change greater than 5 NBS color units per ASTM D-2244 or chalking excess of 8 units per ASTM D-659. If either occurs material shall be replaced per warranty, at no cost to the Owner.
 - C. Contractor's Warranty
 1. The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of two years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof.
- 1.6 QUALIFICATIONS
- A. Fabricator and Installer: Company specializing in sheet metal flashing work with 5 years experience.
- 1.7 DELIVERY, STORAGE, AND HANDLING
- A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.
 - B. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
 - C. Prevent contact with materials which may cause discoloration or staining.

PART 2 - PRODUCTS

- 2.1 APPROVED EQUIVALENT
- A. Contractor must submit any product not specified a minimum five days before the bid date to Owner in order for product to be considered for approval. The Owner will notify Contractor in writing by addenda of decision to accept or reject request.
- 2.2 MATERIALS
- A. Metal system is to be comprised of minimum Aluminum or Galvalume steel, coated on both sides with an epoxy primer and on the weathering surface with a polyvinylidene fluoride or siliconized polyester baked organic coated finish.
 1. Materials
 - a. Aluminum-Zinc alloy Coated Steel
Aluminum-zinc alloy (galvalume) coated steel, ASTM A792, coating designation AZ-50, in thickness of .0217 nom. /26 gauge or .0336 nom. / 22 gauge or 0.157 nom. / 30 gauge for accessory components; 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.
 - b. Minimum gauge of steel or thickness of Aluminum to be 24 ga. as specified in accordance with Architectural Sheet Metal Manual, Sheet Metal and Air Conditioning Contractor's National Association, Inc. recommendations.

- c. Steel Finishes: fluorocarbon finish. Epoxy primer baked both sides, .2-.25 mils thickness as approved by finish coat manufacturer. Weathering finish as referred by National Coil Coaters Association (NCCA).

| <u>Property</u> | <u>Test Method</u> | <u>Fluorocarbon*</u> |
|-----------------------------|--------------------|--|
| Pencil Hardness | ASTM D-3363 | HB-H |
| Bend | ASTM D-4145 | O-T |
| Cross-Hatch Adhesion | ASTM D-3359 | NCAA II-19 |
| Gloss (60° angle) | ASTM D-523 | no loss of adhesion |
| Reverse Impact | ASTM D-2794 | 25+/-5% |
| Nominal Thickness | ASTM D-1005 | no cracking or loss of adhesion |
| primer | | 0.2 mils |
| topcoat | | 0.8 mils |
| TOTAL | | 1.0 mils |

***Subject to minimum quantity requirements**

- d. Colors shall be selected by the owner.

2.3 RELATED MATERIALS

- A. Metal Primer: Zinc chromate type.
 B. Plastic Cement: ASTM D 4586
 C. Sealant: Specified in Section 07900 or on drawings.
 D. Underlayment: ASTM D2178, No15 asphalt saturated roofing felt.
 E. Slip Sheet: Rosin sized building paper.
 F. Fasteners:
 1. Corrosion resistant screw fastener as recommended by metal manufacturer. Finish exposed fasteners same as flashing metal.
 2. Fastening shall conform to Factory Mutual 1-90 requirements or as stated on section details, whichever is more stringent.
 G. Termination Bars:
 1. Shall be aluminum unless otherwise recommended by membrane manufacturers.
 2. Material shall be .125" x 1" (minimum) aluminum conforming to ASTM B-221, mill finish. Bar shall have caulk cup as required.
 H. Metal Wall Flashing: 24 Ga. "S" seam wall panels

PART 3 – EXECUTION

3.1 PROTECTION

- A. Protect contact areas of dissimilar metals with heavy asphalt or other approved coating, specifically made to stop electrolytic action.

3.2 GENERAL

- A. Install work watertight, without waves, warps, buckles, fastening stress, or distortion, allowing for expansion and contraction.
 B. Fastening of metal to walls and wood blocking shall comply with SMACNA Architectural Sheet Metal Manual, Factory Mutual I-90 wind uplift specifications and/or manufacturer's recommendations whichever is of the highest standard.
 C. All accessories or other items essential to the completeness of sheet metal installation, whether specifically indicated or not, shall be provided and of the same material as item to which applied.
 D. Metal fascia and copings shall be secured to wood nailers at the bottom edge with a continuous cleat. Cleats shall be at least one gauge heavier than the metal it secures.

- 3.3 INSPECTION
- A. Verify roof openings, curbs, pipes, sleeves, ducts, or vents through roof are solidly set, cant strips and reglets are in place, and nailing strips located.
 - B. Verify membrane termination and base flashings are in place, sealed, and secure.
 - C. Beginning of installation means acceptance of existing conditions.
 - D. Field measure site conditions prior to fabricating work.
- 3.4 MANUFACTURED SHEET METAL SYSTEMS
- A. Installing Contractor shall be responsible for determining if the sheet metal systems are in general conformance with roof manufacturer's recommendations.
 - B. Furnish and install manufactured sheet metal systems in strict accordance with manufacturer's printed instructions.
 - C. Provide all factory-fabricated accessories including, but not limited to, fascia extenders, miters, scuppers, joint covers, etc.
- 3.5 SHOP FABRICATED SHEET METAL
- A. Installing Contractor shall be responsible for determining if the sheet metal systems are in general conformance with roof manufacturer's recommendations.
 - B. Metal work shall be shop fabricated to configurations and forms in accordance with recognized sheet metal practices.
 - C. Hem exposed edges.
 - D. Angle bottom edges of exposed vertical surfaces to form drip.
 - E. All corners for sheet metal shall be lapped with adjoining pieces fastened and set in sealant.
 - F. Joints for gravel stop fascia system, cap flashing, and surface-mount counterflashing shall be formed with a 1/4" opening between sections. The opening shall be covered by a cover plate or backed by an internal drainage plate formed to the profile of fascia piece. The cover plate shall be embedded in mastic, fastened through the opening between the sections and loose locked to the drip edges.
 - G. Install sheet metal to comply with Architectural Sheet Metal manual, Sheet Metal and Air Conditioning Contractor's National Associations, Inc.

END OF SECTION