

## PROJECT MANUAL

# Tioga Downs Racetrack LLC Reception Center

## Project Manual Volume I

THE DESIGN OF THIS PROJECT CONFORMS TO ALL APPLICABLE PROVISIONS OF THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE AND THE NEW YORK STATE ENERGY CONSERVATION CODE



ISSUE FOR BID: APRIL 15, 2024

AJH DESIGN 23-111



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SECTION 00 11 13  
ADVERTISEMENT FOR BIDS

NOTICE IS HEREBY GIVEN, that sealed proposals, are sought and requested by Tioga Downs Racetrack LLC (hereinafter called "owner"), for the provision and installation/construction of the following Project:

**Reception Center Facility, Nichols, New York.**

Sealed Proposals are requested for a single prime contract for General Trades, Mechanical, Plumbing, Fire Protection, and Electrical work in accordance with Drawings, Project Manual, and other Bidding and Contract Documents prepared by AJH Design, 111 East 14<sup>th</sup> Street, Elmira Heights, NY 14903.

**Sealed bids will be received by the Owner until Tuesday, May 21, 2024 at 2:00 P.M., at AJH Design 111 East 14<sup>th</sup> Street, Elmira Heights, New York 14903.**

Bidders wishing to submit a bid prior to the above date can deliver the bid package to AJH Design, 111 East 14<sup>th</sup> Street, Elmira Heights, New York 14903.

The Bidding Documents and Forms of Proposals may be examined at the following:

AJH Design, 111 East 14<sup>th</sup> Street, Elmira Heights, NY 14903.

Builder's Exchange of Rochester, 180 Linden Oaks, Suite 100, Rochester, NY 14625-2837

Associated Building Contractors, 15 Belden Street, Binghamton, NY 13903

Construction Industry Exchange of South Central New York, Inc., Mark Twain Building, Suite 202, 147 Gray Street, P.O. B ox 1177, Elmira, New York 14902.

McGraw-Hill Construction, 3315 Central Ave, Hot Springs, AR, 71913  
<http://dodgeprojects.construction.com>

Southern Tier Builders Association, 65 East Main Street, Falconer, NY 14733.

Syracuse Builders Exchange, 6563 Ridings Rd., Syracuse, NY 13206

Construction Journal, 20 Farrell Street, South Burlington, VT 05403, Contact  
Erica France 772-781-2141, [efrance@constructionjournal.com](mailto:efrance@constructionjournal.com).

As bid security, each bid shall be accompanied by a certified check or Bid Bond made payable to the Owner in the amount of five percent (5%) of the total of base bid and all alternates, in accordance with the terms described in the instructions to bidders.

Copies of the contract documents may be obtained at the office of AJH Design, 111 East 14<sup>th</sup> Street, Elmira Heights, NY 14903, phone (607) 737-4638, fax (607) 767-6115 for a fee of \$100.00 made payable to Toga Downs Racetrack LLC. Digital (PDF) copies of the documents may be obtained at no cost by contacting AJH Design by calling or emailing: (607) 737-4638 or [info@ajh-design.com](mailto:info@ajh-design.com). Each plan holder shall provide an email address and phone number for receipt of addenda.

If mailing is requested, a separate check of \$35 made payable to Toga Downs Racetrack LLC is required to cover postage and handling.

**All checks for deposit of Contract Documents and shipping shall be made payable to Tioga Downs Racetrack, LLC.**

All Prime Contract Bidders who have paid the aforesaid deposit for an entire set of Bidding and Contract Documents and have submitted a bid with required bid security; and return such sets to AJH Design in good condition within thirty (30) calendar days after the award of contract or rejection of bids, shall receive a refund of the full amount of such deposit. Any non-bidder may be refunded his deposit only upon returning plans and specifications prior to the bid opening. Postage and handling are not refundable.

A pre-bid conference for all bidders will be held on Tuesday, April 30<sup>th</sup>, 2024, at 10:00 AM at 2384 West River Road, Nichols, New York 13812 for the purpose of considering questions posed by bidders. All interested parties should attend. This conference will assemble within the facility in front of the County Fair Buffet Restaurant.

All questions prior to bid opening must be received by the close of business on Monday, May 13, 2024. Questions shall be directed to David R. Adams at AJH Design, (607) 737-4638, email dadams@ajh-design.com.

The Owner requires that all bids shall comply with the bidding requirements specified in the Instructions to Bidders. The Owner, at his discretion, may waive informalities in bids, but is not obligated to do so, nor does this represent that he will do so. The Owner also reserves the right to reject any and all bids. Under no circumstances will the Owner waive any informality which, by such waiver, would give one Bidder a substantial advantage or benefit not enjoyed by all other Bidders. No Bidder may withdraw his Bid before thirty (30) days after the actual date of the opening thereof, unless a mistake due to error is claimed by the Bidder in accordance with the Instructions to Bidders.

No proposal may be withdrawn within thirty (30) days after the date set for the opening thereof.

**This project requires a minimum (MWBE) Minority and Women Owned Business Enterprise participation of 30% of the total contract value. The prime contractor shall be responsible to provide goods and services utilizing Minority and Women Owned Business Enterprises in quantities to meet the minimum requirement.**

The Tioga Downs Racetrack LLC is an equal opportunity employer. Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE) are encouraged to submit a bid.

Tioga Downs Racetrack, LLC

## Instructions to Bidders

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

23-111 Tioga Downs Reception Center  
2384 West River Road, Nichols, New York 13812  
Reception center

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

Tioga Downs Racetrack, LLC  
2384 West River Road  
Nichols, New York 13812

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

AJH Design  
111 East 14th Street  
Elmira Heights, New York 14903

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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 read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

## 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.)*

| email [info@ajh-design.com](mailto:info@ajh-design.com) or phone 607-737-4638

**§ 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.

**§ 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.)*

email AJH-Design at [info@ajh-design.com](mailto:info@ajh-design.com) or [dadams@ajh-design.com](mailto:dadams@ajh-design.com)

**§ 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.

#### § 3.4 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.)*

Bidders receiving digital copies of contract documents will be issued addendum by email or dropbox to email provided at time of document request. Bidders receiving contract documents in hard copy format will be mailed addendums in hard copy format.

§ 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.

#### § 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security:

*(Insert the form and amount of bid security.)*

Refer to Supplementary Instructions to Bidders

**§ 4.2.2** The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. In the event the Owner fails to comply with Section 6.2, the amount of the bid security shall not be forfeited to 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 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 days after the opening of Bids, withdraw its Bid and request the return of its bid security.

### **§ 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.)*

Provide bids on Form of Proposal provided in the project manual. Submit as hard copy to address noted in the Advertisement for Bids or email to [dadams@ajh-design.com](mailto:dadams@ajh-design.com)

**§ 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** 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.)*

As determined by the Owner dependent upon conditions of error.

## **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.

## **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 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 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.

§ 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 A101™–2017, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.

| *(Paragraph Deleted)*

| *(Paragraphs Deleted)*

- .2 AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise stated below.

| *(Paragraph Deleted)*

| (

*(Paragraphs Deleted)*

**.3 Drawings**

**Number**

Refer to Exhibit A Table of Contents

**Date**

**.4 Specifications**

**Section**

Refer to Exhibit A Table of Contents

**Date**

**.5 Addenda:**

**Number**

To Be Determined

**Date**

*(Paragraphs Deleted)*

*(Table Deleted)*

*(Paragraph Deleted)*

*(Table Deleted)*

SECTION 00 21 16

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

THE FOLLOWING SUPPLEMENTS THE "INSTRUCTIONS TO BIDDERS," AIA DOCUMENT A701, 2018. WHERE A PORTION OF THE INSTRUCTION TO BIDDERS IS MODIFIED OR DELETED BY THESE SUPPLEMENTARY INSTRUCTIONS TO BIDDERS, THE UNALTERED PORTIONS OF THE INSTRUCTION TO BIDDERS REMAIN IN EFFECT.

1.1 ARTICLE 2 – BIDDER’S REPRESENTATIONS

- A. This project requires a minimum (MWBE) Minority and Women Owned Business Enterprise participation of 30% of the total contract value
- B. The prime contractor shall be responsible to provide goods and services utilizing Minority and Women Owned Business Enterprises in quantities to meet the minimum requirement.
- C. The contractor shall fully coordinate and cooperate with the owner to provide all records required to substantiate and document the minimum requirements.

1.2 ARTICLE 3 - BIDDING DOCUMENTS

A. 3.5 OR EQUAL CLAUSE

- B. 3.5.1 The use of manufacturer's brand names, catalog numbers, and similar proprietary identifying data in the contract documents are not intended to eliminate from consideration products that are equivalent in quality, appearance and function to those specified. Where, in the specifications, certain kinds, types, brands, or manufacturers of materials are named, they shall be regarded as the required standard of quality. Where two or more are named, these are presumed to be equal, and the contractor may select one of those items. If the contractor desires to use any kind, type, brand, or manufacture of material other than those named in the Specification, he shall indicate in the Bid Form, or in writing when requested, prior to award of contract, that kind, type, brand, or manufacture is included in the base and/or alternate bids for the specified item(s). Further, the contractor may be requested to submit information describing in specific detail, wherein the bid material differs from the quality and performance required by the base specifications, and such other information as may be required by the Architect. The risk of acceptance of bid equivalents is the responsibility of the contractor.

1.3 ARTICLE 4 - BIDDING PROCEDURES

- A. 4.2.5 Bid security shall be in the amount of 5% of the bid amount, cash will not be accepted as bid security. Bid security shall be in one of the following forms:
  - 1. a. Bid Bond from a company listed on Treasury Circular 570.
  - 2. b. Certified Check.
  - 3. c. Bank Check.

1.4 ARTICLE 6 - POST BID INFORMATION

- A. 6.3.1.4 If requested by Owner, provide a Schedule of Values broken down by Specification Section for all portions of the work.

1.5 ARTICLE 7 - PERFORMANCE BOND AND PAYMENT BOND

- A. 7.1.1 Replace paragraph 7.1.1 with the following: The successful Bidder shall furnish and maintain a Performance Bond and Labor and Material Bond in the amount of at least 100 percent of the Contract Amount with all premiums therefore paid by the Bidder.

- B. 7.1.3 Replace paragraph 7.1.3 with the following: The surety for these bonds shall be a duly authorized surety company satisfactory to the Owner, licensed to do business in the state where the Project is located, and listed in the latest issue of the U.S. Treasury Circular 570.
- C. 7.1.3.1 Attorneys-in-fact who sign bonds must file with each bond a certified copy of their power of attorney to sign the bond.
- D. 7.1.4 Bonds shall be prepared on AIA Document A312 - Performance Bond and Labor and Material Payment Bond.

## 1.6 ARTICLE 9 - LAWS AND REGULATIONS

- A. 9.1 Laws and Regulations.
  - B. 9.1.1 All applicable laws, ordinances, rules, and regulations of federal, state, and municipal authorities having jurisdiction over this Project shall apply to the Contract throughout and will be deemed to be included in the Contract as though herein written out in full.
  - C. 9.1.2 The sections of the New York State Labor Law (LL) and the New York state General Municipal Law (GML) include, but are not necessarily limited to, the following which are listed here for references:
    - 1. (1) LL S220, subd. 2: Eight-hour day, 40-hour week
    - 2. (2) Minimum wage rates and supplements
    - 3. (3) LL S220-3: Anti-discrimination
    - 4. (4) LL S222-a: Elimination of dust hazard
    - 5. (5) GML S103: Equivalencies
    - 6. (6) PGML S103: Background investigation to determine "responsible bidder"
    - 7. (7) GML S103-d: Non-collusive bidding certificate
    - 8. (8) GML S103-b: Payment of contractors and subcontractor
    - 9. (9) GML S108: Workmen's compensation insurance
  - D. 9.1.3 Other applicable laws, rules, and regulations include, but are not necessarily limited to, the following which are listed here for reference.
    - 1. (1) Title 29, Code of Federal Regulations, Section 1910.1001. Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.
    - 2. (2) Title 40, Code of Federal Regulations, Part 61, Subparts A and B National Emission Standards for Hazardous Air Pollutants. U.S. Environmental Protection Agency (EPA).
    - 3. (3) Industrial Code Rule 56 as issued by the State of New York, Department of Labor, Division of Safety and Health, One Main Street, Brooklyn, New York, 11202.

## 1.7 ARTICLE 10 - PROJECT AND BID INFORMATION

- A. 10.1 Project Title: Tioga Downs Reception Center, 2384 West River Road, Nichols, New York.
- B. 10.2.1 Owner: Tioga Downs Racetrack LLC.
- C. 10.3.1 Access to the Site: Bidders will be permitted access to the site prior to the scheduled bid opening date at times to be arranged with the Architect.

END OF SECTION

DOCUMENT 00 41 13

FORM OF PROPOSAL

Project Proposal for: Tioga Downs Racetrack, LLC. – Reception Center Project.

From: Name:

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

City/Zip: \_\_\_\_\_

Phone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

To: Tioga Downs Racetrack LLC.  
2384 West River Road  
Nichols, New York 13812

Date: **Tuesday May 21, 2024** Time: **2:00 PM**

The bidder, in compliance with the invitation to bid, has carefully examined the contract documents, together with all addenda thereto, all as prepared by AJH Design and being familiar with the various conditions affecting the work, agrees to furnish all materials, perform all labor and provide all other services necessary to complete all building addition construction work in accordance with the intent of the contract documents.

\_\_\_\_\_ Dollars

In Words

(\$ \_\_\_\_\_ )

In Figures

In submitting the proposal, it is understood that the unrestricted right is reserved by the Owner to reject any and all proposals, or to waive any informalities or technicalities in said proposal, and it is agreed that this proposal may not be withdrawn for a period of thirty (30) days from the opening thereof.

The undersigned hereby certifies that this proposal is genuine, and not sham or collusive, or made in the interest, or in behalf of any person, firm or corporation not herein named; that the undersigned has not directly or indirectly induced or solicited any bidder to refrain from bidding, and that the undersigned has not in any manner, sought by collusion to secure for himself an advantage over any other Bidder.

We acknowledge the following Addendum(s) and/or Bulletin(s):

Addendum/Bulletin No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum/Bulletin No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum/Bulletin No. \_\_\_\_\_ Dated \_\_\_\_\_

Addendum/Bulletin No. \_\_\_\_\_ Dated \_\_\_\_\_

The date of this proposal is: \_\_\_\_\_ 2024.

**ALTERNATES**

Indicate in the spaces provided below the amount to be added or deducted from the base bid if the following ALTERNATES as described in SECTION 01 23 00 of the Project Manual are accepted by the Owner.

Include in the amount of the ALTERNATES, all labor, materials, overhead and profit, modification of work specified in Contract Documents, and additional work required that may be required by acceptance of the ALTERNATE.

Refer to INSTRUCTIONS TO BIDDERS and SECTION 01 23 00 for additional information regarding ALTERNATES.

**LIST OF ALTERNATES:**

**ALTERNATE ALT #1:** DELETE EXTERIOR PERGOLA STRUCTURE AS IDENTIFIED BY THE CONTRACT DOCUMENTS.

DEDUCT:

---

(Amount in Words)

---

(Amount in Figures)

**ALTERNATE ALT #2:** IN LIEU OF POLYMERIC ROOF SHINGLES PROVIDE ASPHALT ROOF SHINGLES AS IDENTIFIED BY THE CONTRACT DOCUMENTS.

DEDUCT:

---

(Amount in Words)

---

(Amount in Figures)

**ALTERNATE ALT #3:** IN LIEU OF EXPOSED AGGREGATE POLISHED CONCRETE FLOORS PROVIDE STAINED CONCRETE FLOORS AS IDENTIFIED BY THE CONTRACT DOCUMENTS.

DEDUCT:

---

(Amount in Words)

---

(Amount in Figures)

**ALTERNATE ALT #4:** DELETE IN-FLOOR RADIANT HEATING SYSTEM AS IDENTIFIED BY THE CONTRACT DOCUMENTS.

DEDUCT:

---

(Amount in Words)

---

(Amount in Figures)

**EXECUTION OF CONTRACT:**

If written notice of the acceptance of this BID is delivered to the undersigned within 30 days after the date of opening of the Bids, the undersigned will, within ten (10) days after the date of such delivery, execute and deliver a contract in the form as required by the Owner. The BID may be withdrawn at any time prior to the scheduled time for the opening of Bids. The undersigned bidder hereby states that by completing and submitting this Form and all other documents within this bid submittal, he/she is verifying that all information provided herein is, to the best of his/her knowledge, true and accurate, and that if the Owner discovers that any information entered herein to be false, such shall entitle the Owner to not consider or make award or to cancel any award with the undersigned party. Further, by completing and submitting the bid, the undersigned bidder is thereby agreeing to abide by all terms and conditions pertaining to this bid as issued by the Owner, including an agreement to execute the attached Sample Contract form. Pursuant to all Bid Documents, this Bid Form, and all attachments, and pursuant to all completed Documents submitted, including these forms and all attachments, the undersigned proposes to supply the Owner with the services described herein for the fee(s) entered on this form.

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

\_\_\_\_\_  
Corporate Officer Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name



DOCUMENT 00 41 14

NON-COLLUSIVE BIDDING CERTIFICATION

By submission of this proposal, each proposer and each person signing on behalf of any proposer certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

1. The prices in the proposal have been arrived at independently without collusion, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; and;
2. Unless otherwise required by law, the prices, which have been quoted in this proposal, have not been knowingly disclosed by the proposer prior to opening, directly or indirectly, to any other proposer or to any other competitor; and;
3. No attempt has been made or will be made by the proposer to induce any other person, partnership or corporation to submit or not to submit a proposal for the purpose of restricting competition.

A proposal shall not be considered for award, nor shall any award be made where numbers 1, 2 and 3 above have not been complied with; provided however, that if in any case the proposer cannot make the foregoing certification, the proposer shall so state and shall furnish with the proposal a signed statement which sets forth in detail the reasons therefore. Where numbers 1, 2 and 3 above have not been complied with, the proposal shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the subdivision, public department, agency or official thereof to which the proposal is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

The fact that a proposer (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customers of proposed pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of subparagraph one.

(Signed) \_\_\_\_\_

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

Subscribed and sworn to before me

Official Seal of Notary

This \_\_\_\_\_ day of 2024

\_\_\_\_\_  
Signature of Notary

**MUST RETURN WITH BID**



SECTION 00 41 15  
CORPORATE RESOLUTION

Resolve that \_\_\_\_\_  
Name of Individual

Be authorized to sign and submit the bid or proposal of:  
\_\_\_\_\_  
Name of Corporation

For the following project: 23-111 Tioga Downs Racetrack, LLC Reception Center Project.

The foregoing is a true and correct copy of the resolution by:  
\_\_\_\_\_  
Name of Corporation

At a meeting of it's Board of Directors held on:  
\_\_\_\_\_  
Date

\_\_\_\_\_  
Secretary

Seal of the Corporation



**Performance Bond**

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

**SURETY:**  
*(Name, legal status and principal place of business)*

**OWNER:**  
*(Name, legal status and address)*  
Tioga Downs Racetrack, LLC  
2384 West River Road  
Nichols, New York 13812

**CONSTRUCTION CONTRACT**  
Date:  
Amount: \$  
Description:  
*(Name and location)*  
23-111 Tioga Downs Reception Center  
2384 West River Road, Nichols, New York 13812

**BOND**  
Date:  
*(Not earlier than Construction Contract Date)*

Amount: \$  
Modifications to this Bond:                      None                      See Section 16

<b>CONTRACTOR AS PRINCIPAL</b>	<b>SURETY</b>
Company: <i>(Corporate Seal)</i>	Company: <i>(Corporate Seal)</i>
Signature: _____	Signature: _____
Name and Title:	Name and Title:

*(Any additional signatures appear on the last page of this Performance Bond.)*

*(FOR INFORMATION ONLY — Name, address and telephone)*

**AGENT or BROKER:**                      **OWNER'S REPRESENTATIVE:**  
*(Architect, Engineer or other party:)*

**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.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

**§ 1** The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

**§ 2** If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

**§ 3** If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

**§ 4** Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

**§ 5** When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

**§ 5.1** Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

**§ 5.2** Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

**§ 5.3** Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

**§ 5.4** Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

**§ 6** If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

**§ 7** If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

**§ 8** If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

**§ 9** The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

**§ 10** The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

**§ 11** Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

**§ 12** Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

**§ 13** When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

#### **§ 14 Definitions**

**§ 14.1 Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

**§ 14.2 Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

**§ 14.3 Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

**§ 14.4 Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

**§ 14.5 Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

*(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)*

**CONTRACTOR AS PRINCIPAL**

Company: \_\_\_\_\_ *(Corporate Seal)*  
Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_  
Address: \_\_\_\_\_

**SURETY**

Company: \_\_\_\_\_ *(Corporate Seal)*  
Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_  
Address: \_\_\_\_\_





# AIA® Document A312® – 2010

## Payment Bond

**CONTRACTOR:**

*(Name, legal status and address)*

**SURETY:**

*(Name, legal status and principal place of business)*

**OWNER:**

*(Name, legal status and address)*

Tioga Downs Racetrack, LLC  
2384 West River Road  
Nichols, New York 13812

**CONSTRUCTION CONTRACT**

Date:

Amount: \$

Description:

*(Name and location)*

23-111 Tioga Downs Reception Center  
2384 West River Road, Nichols, New York 13812

**BOND**

Date:

*(Not earlier than Construction Contract Date)*

Amount: \$

Modifications to this Bond:

None

See Section 18

**CONTRACTOR AS PRINCIPAL**

Company: *(Corporate Seal)*

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

**SURETY**

Company: *(Corporate Seal)*

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

Name and

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

*(Any additional signatures appear on the last page of this Payment Bond.)*

Name and

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

*(FOR INFORMATION ONLY — Name, address and telephone)*

**AGENT or BROKER:****OWNER'S REPRESENTATIVE:**

*(Architect, Engineer or other party:)*

**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.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

**§ 1** The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

**§ 2** If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

**§ 3** If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

**§ 4** When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

**§ 5** The Surety's obligations to a Claimant under this Bond shall arise after the following:

**§ 5.1** Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

**§ 5.2** Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

**§ 6** If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

**§ 7** When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

**§ 7.1** Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

**§ 7.2** Pay or arrange for payment of any undisputed amounts.

**§ 7.3** The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

**§ 8** The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

**§ 9** Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

**§ 10** The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

**§ 11** The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

**§ 12** No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

**§ 13** Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

**§ 14** When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

**§ 15** Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

## **§ 16 Definitions**

**§ 16.1 Claim.** A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

**§ 16.2 Claimant.** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

**§ 16.3 Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

**§ 16.4 Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

**§ 16.5 Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

**§ 17** If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

**§ 18** Modifications to this bond are as follows:

*(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)*

**CONTRACTOR AS PRINCIPAL**

Company: \_\_\_\_\_ *(Corporate Seal)*  
Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_  
Address: \_\_\_\_\_

**SURETY**

Company: \_\_\_\_\_ *(Corporate Seal)*  
Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_  
Address: \_\_\_\_\_



# AIA® Document A101® – 2017

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

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

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

Tioga Downs Racetrack, LLC  
2384 West River Road  
Nichols, New York 13812  
Telephone Number: 607-669-7668

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

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

23-111 Tioga Downs Reception Center  
2384 West River Road, Nichols, New York 13812  
200 seat reception center with bridal room, serving kitchen and interior/exterior beverage bar.

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

AJH Design  
111 East 14th Street  
Elmira Heights, New York 14903  
607-737-4638

The Owner and Contractor agree as follows.

**ADDITIONS AND DELETIONS:**

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

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

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

## TABLE OF ARTICLES

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

*(Paragraph Deleted)*

### ARTICLE 1 THE CONTRACT DOCUMENTS

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

### ARTICLE 2 THE WORK OF THIS CONTRACT

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

### ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

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

*(Check one of the following boxes.)*

- The date of this Agreement.
- A date set forth in a notice to proceed issued by the Owner.
- Established as follows:

*(Insert a date or a means to determine the date of commencement of the Work.)*

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

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

### § 3.3 Substantial Completion

Init.

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User Notes:

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**§ 3.3.1** Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:  
(Check one of the following boxes and complete the necessary information.)

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

By the following date: February 21, 2025

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

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

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

**ARTICLE 4 CONTRACT SUM**

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

**§ 4.2 Alternates**

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

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

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

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

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

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

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

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

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

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

## ARTICLE 5 PAYMENTS

### § 5.1 Progress Payments

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

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

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the 30th day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the 30th day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than forty five ( 45 ) days after the Architect receives the Application for Payment.

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

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

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

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

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

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

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

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

### § 5.1.7 Retainage

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

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



5%

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

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

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

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

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

## **§ 5.2 Final Payment**

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

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

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

## **§ 5.3 Interest**

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

1 % one percent.

## **ARTICLE 6 DISPUTE RESOLUTION**

### **§ 6.1 Initial Decision Maker**

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

**§ 6.2 Binding Dispute Resolution**

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:

*(Check the appropriate box.)*

Arbitration pursuant to Section 15.4 of AIA Document A201–2017

Litigation in a court of competent jurisdiction

Other *(Specify)*

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

**ARTICLE 7 TERMINATION OR SUSPENSION**

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

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

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

\$0

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

**ARTICLE 8 MISCELLANEOUS PROVISIONS**

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

**§ 8.2** The Owner’s representative:

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

**§ 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 A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum and elsewhere in the Contract Documents.

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

*(Paragraphs Deleted)*

**ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS**

§ 9.1 This Agreement is comprised of the following documents:

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

*(Paragraphs Deleted)*

- .3 Drawings

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

- .6 Specifications

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

- .7 Addenda, if any:

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

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

- .8 Other Exhibits:  
*(Check all boxes that apply and include appropriate information identifying the exhibit where required.)*

*(Paragraphs Deleted)*

*(Table Deleted)*

[ ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
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- .9 Other documents, if any, listed below:

Init.

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

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

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

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

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

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

Init.

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# AIA® Document A201® – 2017

## General Conditions of the Contract for Construction

### for the following PROJECT:

*(Name and location or address)*

23-111 Tioga Downs Reception Center  
2384 West River Road, Nichols, New York 13812

### THE OWNER:

*(Name, legal status and address)*

Tioga Downs Racetrack, LLC  
2384 West River Road  
Nichols, New York 13812

### THE ARCHITECT:

*(Name, legal status and address)*

AJH Design  
111 East 14<sup>th</sup> Street  
Elmira Heights, New York 14903

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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.

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

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User Notes:

(944075568)

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## **ARTICLE 1 GENERAL PROVISIONS**

### **§ 1.1 Basic Definitions**

#### **§ 1.1.1 The Contract Documents**

The Contract Documents consist of: Notice to Bidders, Instructions to Bidders, Supplementary Instructions to Bidders, Forms of Proposal, the Agreement between Owner and Contractor (hereinafter 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.

#### **§ 1.1.2 The Contract**

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

#### **§ 1.1.3 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 the Owner and by Separate Contractors.

#### **§ 1.1.5 The Drawings**

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

#### **§ 1.1.6 The Specifications**

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

#### **§ 1.1.7 Instruments of Service**

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

#### **§ 1.1.8 Initial Decision Maker**

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

### **§ 1.2 Correlation and Intent of the Contract Documents**

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

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

The Agreement.

Addenda, with those of late date having precedence over those of earlier date. The Supplementary Conditions.

The General Conditions of the Contract for Construction. 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 Architect'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, 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, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

## **ARTICLE 2 OWNER**

### **§ 2.1 General**

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

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

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

**§ 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.

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

§ 2.3.4 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.

§ 2.3.5 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.

§ 2.3.6 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.

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

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

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

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

### ARTICLE 3 CONTRACTOR

#### § 3.1 General

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

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

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



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

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

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

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

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

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

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

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

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

## **§ 3.4 Labor and Materials**

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

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

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

§ 3.4.4 The use of manufacturer's brand names, catalog numbers, and similar proprietary identifying data in the contract documents are not intended to eliminate from consideration products that are equivalent in quality, appearance and function to those specified.

§ 3.4.5 The Architect will be allowed a reasonable time within which to evaluate each proposed substitution. The burden of proof regarding the merit of a substitution is on the Contractor. The Architect will be the sole judge of equivalence, and no substitute will be ordered, installed or utilized without the Architect's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. Owner may require Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to any substitute. The Architect will record time required by the Architect and the Architect's consultants in evaluating substitutions proposed by Contractor and in making changes in the Contract Documents occasioned thereby. Whether or not the Architect accepts a proposed substitute, Contractor shall reimburse Owner for the charges of the Architect and Architect's Consultants for evaluating each proposed substitute.

§ 3.4.6 By making requests for substitutions based on Subparagraph 3.4.3 above, the Contractor:

1. Represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
2. Represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;
3. Certifies that the cost data presented is complete and includes all related costs under this Contract except the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and
4. Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

§ 3.4.7 Not later than 7 days prior to award of contract, the contractor shall furnish in writing to the Owner through the Architect all manufacturers proposed as substitutions of equivalencies for initial review.

### § 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

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

§ 3.5.3 Neither final payment nor provision in Contract documents nor partial or entire occupancy of premises by Owner shall constitute an acceptance of work not done in accordance with Contract Documents or relieve the Contractor liability in respect to any express warranties or responsibility for faulty materials or workmanship.

§ 3.5.4 The Contractor shall warrant all materials and operating systems to be free from any defects and faulty equipment for a period of one (1) year from the date the Architect/Owner recommends final payment or where the

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performance of materials, systems, or equipment is documented to perform satisfactorily. The Performance Bond shall remain in full effect and force through the guarantee period.

**§ 3.5.5** In emergencies occurring during the guarantee period, the Owner may correct any defect immediately and charge the cost to the Contractor. The Owner shall at once notify the Contractor, who may take over the Work and make any corrections remaining after his forces arrive at the Work. Repair work not started within seven days following notice to the Contractor of any defect may be considered an emergency.

**§ 3.5.6** The Contractor shall obtain and furnish to the Architect written Manufacturer's Warranties for all major materials and for all equipment. The terms of the warranty shall be as individually specified for the item; if no term is specified, the terms shall be a minimum of one year.

### **§ 3.6 Taxes**

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

**§ 3.6.2** The contractor shall pay taxes as identified in Paragraph 3.6 above. At the completion of the project the contractor shall aid the owner in submission of an application for a tax credit from Empire State Development for material costs incorporated into the project. This exemption does not, however, apply to tools, machinery, equipment, or other property leased by the Contractor or a subcontractor; and the Contractor and his subcontractor shall be responsible for, and pay, any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment, or other property.

**§ 3.6.3** Equipment, or other property leased by, or to the Contractor or a subcontractor; and the Contractor and his subcontractor shall be responsible for, and pay, any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment, or other property.

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

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

**§ 3.7.1.1** If, in connection with the Project, the Owner has obtained certain permits, licenses, or agreements from State and Federal Agencies and adjacent property owners for the Project, the Owner will furnish copies of these permits to the Contractor. It is the Contractor's responsibility to comply with any conditions or limitations placed on the Project by these permits. The Contractor shall fully cooperate with Owner in meeting the permit requirements and accommodations of regulatory inspections/directives.

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

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

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

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

promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

**§ 3.7.5** If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

### **§ 3.8 Allowances**

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

**§ 3.8.2** Unless otherwise provided in the Contract Documents,

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

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

### **§ 3.9 Superintendent**

**§ 3.9.1** The Contractor shall employ a 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.

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

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

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

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

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

Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

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

### § 3.11 Documents and Samples at the Site

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

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

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

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

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

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

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

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

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

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

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

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

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

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

### § 3.13 Use of Site

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

### § 3.14 Cutting and Patching

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

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

### § 3.15 Cleaning Up

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

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

### § 3.16 Access to Work

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

### § 3.17 Royalties, Patents and Copyrights

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

### § 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor Vendor shall indemnify, defend, save and hold TDR and its affiliates, shareholders, directors officers, employees and anyone else acting for or on behalf of any of them (herein collectively called "indemnitees") harmless from and against all liability, damage, loss, claims, demands and actions of any nature whatsoever which arise out of or are connected with, or are claimed to arise out of or be connected with:

- a. The performance of work by the Contractor Vendor, or any act or omission of Contractor Vendor, or
- b. Any accident or occurrence which happens, or is alleged to have happened, in or about the place where such work is being performed or in the vicinity thereof, (a) while the Contractor Vendor is performing the work, or (b) failure of Vendor to perform such work as required under the Contract; or
- c. The use, misuse, erection, maintenance, operation or failure of any machinery or equipment whether or not such machinery or equipment was furnished, rented or loaned by TDR or its officers, employees, agents, servants or others, to the Contractor Vendor.

To the fullest extent permitted by law, Contractor Vendor shall indemnify, defend and hold harmless TDR/Owner and its managers, operators, agents, employees, partners, principals, shareholders, affiliates, lenders, officers and directors (collectively, the "Indemnified Parties") from and against: (1) any and all claims, suits, damages, losses or liabilities for injuries (including death) to persons or property arising out of, or in connection with, the work being performed or services being provided by Contractor Vendor and its subcontractors; and, (2) any and all costs, expenses and fees, including but not limited to, architect's, engineer's and consultant's fees and disbursements, and all other professional fees and disbursements and court costs and fees arising out of or in connection with any such claim, suit damage, loss or liability. This indemnity specifically contemplates full indemnity in the event that liability is imposed against an indemnified Party without negligence and solely by reason of statute, operation of law or otherwise, and partial indemnity in the event of any actual negligence on the part of an indemnified Party causing or contributing to the underlying claim, in which case indemnification will be limited to any liability imposed over and above that percentage attributable to actual fault, whether by statute, operation of law or otherwise, to the fullest extent permitted by law.

The foregoing indemnity shall include injury to or death of any employee of the Contractor Vendor or subcontractor and shall not be limited in any way by an amount or type of damages, compensation or benefits payable under any applicable Workers Compensation, Disability Benefits or other similar employee benefits act. This clause shall survive the expiration or termination of this contract and the work.

*(Paragraph deleted)*

### § 3.19 SITE CONDITIONS INVESTIGATED

§ 3.19.1 The Contractor acknowledges he has satisfied himself as to the nature and location of the Work, the general and local conditions, particularly those bearing on transportation, disposal, handling and storage of materials, availability of labor, materials, equipment, utilities, roads, weather, ground water table, character of surface and subsurface materials and conditions, the facilities needed to prosecute the Work, and all other factors which in any way affect the Work or the cost thereof under this Contract. Any failure by the Contractor to acquaint himself with the available information concerning these conditions will not relieve him from the responsibility of successfully performing work.

### **§ 3.20 EXISTING FEATURES AND UNDERGROUND DATA**

§ 3.20.1 The location of existing features shown on plans is intended for general information only. The Contractor, alone, is responsible for accurate determination of the location of all structures, and shall not be entitled to any extra payment due to any unforeseen difficulties or distances encountered in the Work.

§ 3.20.2 The locations, depths and data as to underground conditions have been obtained from records, surface indications and data furnished by others. Information furnished is solely for the convenience of the Contractor without any warranty, expressed or implied as to its accuracy or completeness. The Contractor shall make no claim against the Owner or Architect with respect to the accuracy or completeness of such information if it is erroneous, or if the conditions found at the time of construction are different from those as indicated.

### **§ 3.21 CONSTRUCTION STRESSES**

§ 3.21.1 The Contractor shall be solely responsible for the conditions which develop during construction and in the event any structure is dislocated, over strained, or damaged so as to affect its usefulness, the Contractor shall be solely responsible. The Contractor shall take whatever steps necessary to strengthen, relocate or rebuild the structure to meet requirements.

§ 3.21.2 The Contractor is responsible for restoration and/or repair of utilities, private property, buildings, pavement, walkways, roads, etc. damaged by his activities under this Agreement.

### **§ 3.22 TRAINING AND INSTRUCTIONS**

§ 3.22.1 Upon Substantial Completion of the Work, the Contractor shall orient and instruct personnel of the Owner designated by it in the operation and maintenance of all equipment furnished by the Contractor and shall turn over all pertinent literature and operational manuals relating to the equipment. The format for organizing, binding, and delivering such manuals shall be as described in the Specifications.

## **ARTICLE 4 ARCHITECT**

### **§ 4.1 General**

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

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

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

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

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

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not



have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

#### **§ 4.2.4 Communications**

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

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

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

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

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

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

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

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

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

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

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

## **ARTICLE 5 SUBCONTRACTORS**

### **§ 5.1 Definitions**

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

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

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

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

§ 5.2.1.1 Not later than 7 days prior to award of contract, the Contractor shall furnish in writing to the Owner through the Architect the names of persons or entities proposed as manufacturers for each of the products identified in the General Requirements (Division 1 of the Specifications) and, where applicable, the name of the installing Subcontractor.

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

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner 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.

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

### **§ 5.3 Subcontractual Relations**

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into

similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

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

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

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

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

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

### **ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

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

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

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

**§ 6.1.3** The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

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

#### **§ 6.2 Mutual Responsibility**

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

**§ 6.2.2** If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate

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

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

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

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

### **§ 6.3 Owner's Right to Clean Up**

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

## **ARTICLE 7 CHANGES IN THE WORK**

### **§ 7.1 General**

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

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

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

### **§ 7.2 Change Orders**

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

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

### **§ 7.3 Construction Change Directives**

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

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

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

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

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

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

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

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

**§ 7.3.7** 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** If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, exclusive of drill bits, saw blades, manual and power hand tools, whether incorporated or consumed; and exclusive of trucking, fuel and delivery costs including driver's time.
- .3 Rental costs of heavy machinery and equipment, exclusive of manual and power 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 related to the Work; and

7.3.8.1 In Subparagraph 7.3.7, the allowance for the combined overhead and profit included in the total cost to the Owner shall be based on the following schedule:

1. For the Contractor, for Work performed by the Contractor's own forces, maximum 15 percent of the direct cost.
2. For the Contractor, for Work performed by the Contractor's Subcontractor, maximum 7 percent of the amount due the Subcontractor.
3. For each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor's or Sub-subcontractor's own forces, maximum 15 percent of the direct cost.

4. For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractors, maximum 5 percent of the amount due the Sub-subcontractor.
5. Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.6.
6. In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also.

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

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

**§ 7.3.10** When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

#### **§ 7.4 Minor Changes in the Work**

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

### **ARTICLE 8 TIME**

#### **§ 8.1 Definitions**

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

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

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

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

#### **§ 8.2 Progress and Completion**

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

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

**§ 8.2.3** The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

**§ 8.2.4** In no case shall the Contractor delay the progress of the work, or any part thereof, on account of changes

in the work or disputes caused by proposed or ordered changes in the work, or any disputes or disagreements as to the equitable value of the changes.

### **§ 8.3 Delays and Extensions of Time**

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

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

**§ 8.3.3** This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

## **ARTICLE 9 PAYMENTS AND COMPLETION**

### **§ 9.1 Contract Sum**

**§ 9.1.1** The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

**§ 9.1.2** If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

### **§ 9.2 Schedule of Values**

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

### **§ 9.3 Applications for Payment**

**§ 9.3.1** At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents. The form of Application for Payment shall be a notarized AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet.

**§ 9.3.1.1** As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

**§ 9.3.1.2** Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

**§ 9.3.1.3** Until Substantial Completion, the Owner shall pay ninety-five percent (95%) of the amount due the Contractor on account of progress payments.

**§ 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

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agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

**§ 9.3.2.1** Procedures required by Owner shall include, but are not necessarily limited to, submission by the Contractor to the Architect of bills of sale and bills of lading for such materials and equipment, provision of opportunity for Architect's visual verification that such materials and equipment are in fact in storage, and, if stored off-site, submission by the Contractor of verification that such materials and equipment are stored in a bonded warehouse.

**§ 9.3.2.2** All such materials and equipment, including materials and equipment stored on-site but not yet incorporated into the Work, upon which partial payments have been made shall become the property of the Owner, but the care and protection of such materials and equipment shall remain the responsibility of the Contractor until incorporation into the Work, including maintaining insurance coverage on a replacement cost basis without voluntary deductible.

**§ 9.3.3** The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

#### **§ 9.4 Certificates for Payment**

**§ 9.4.1** The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

**§ 9.4.2** The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

#### **§ 9.5 Decisions to Withhold Certification**

**§ 9.5.1** The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;



- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.5.3.1 Notwithstanding anything above to the contrary, the Owner has the right to withhold payment to protect itself against damages incurred or which may be incurred as the result of the Contractor's breach or negligence, including, but not limited to, the items set forth in Article 9.5.1.

## § 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary

liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

**§ 9.6.8** Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

### **§ 9.7 Failure of Payment**

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

### **§ 9.8 Substantial Completion**

**§ 9.8.1** Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

**§ 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 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 Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

**§ 9.8.4** When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

**§ 9.8.5** The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

### **§ 9.9 Partial Occupancy or Use**

**§ 9.9.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a

portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

**§ 9.9.2** Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

**§ 9.9.3** Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

### **§ 9.10 Final Completion and Final Payment**

**§ 9.10.1** Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

**§ 9.10.1.1** If the Work is not accepted by the Owner after final inspection and additional time is required to complete items identified during the final inspection, the date starting the one-year correction period described in Article 12 shall be set by the Architect at his discretion, but not later than the date of the final Certificate for Payment.

**§ 9.10.1.2** The contractor shall complete all work within 45 days of Substantial Completion unless authorized by the Architect. If the contractor's work is not completed within 45 days from the date of Substantial Completion the amount of compensation paid to the Architect by the Owner for additional services following the 45 days, shall be deducted from the final payment to Contractor.

**§ 9.10.1.3** If the Architect is required to perform additional final inspections because the Work fails to comply with the certifications of the Contractor identified in Division 1, the amount of compensation paid to the Architect by the Owner for additional services shall be deducted from the final payment to the Contractor.

**§ 9.10.2** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

9.10.2.1 In addition to the submittals required in Subparagraph 9.10.2 above, the Contractor shall submit separate release or waivers of liens for each subcontractor, material supplier, and others with lien rights against the property of the Owner and shall submit a list of such parties. Submittals required above shall be made in accordance with procedures described in Division 1.

**§ 9.10.3** If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the

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Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

**§ 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.

## **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.

### **§ 10.2 Safety of Persons and Property**

**§ 10.2.1** The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

**§ 10.2.2** The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

**§ 10.2.3** The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

**§ 10.2.4** When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

**§ 10.2.5** The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

**§ 10.2.8 Injury or Damage to Person or Property**

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

**§ 10.3 Hazardous Materials and Substances**

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

## § 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

## ARTICLE 11 INSURANCE AND BONDS

### § 11.1 Contractor's Insurance and Bonds

Upon execution of this Agreement and at all times prior to Contractor Vendor coming onto the property of TDR, each contractor, subcontractor, sub-subcontractor or anyone hired or retained by or for any insured must carry valid and collectible insurance in the form and with insurance companies acceptable to TDR. They must have the coverage and limits of liability prescribed below, including commercial General Liability without any Labor Law exclusions or Contractual limitation or exclusion, Workers' Compensation and Employers' Liability insurance; Automobile Liability Insurance, Property Insurance for the Contractor's work on the site as more fully set forth herein.

TDR, American Racing and Entertainment, LLC and affiliates must be named as an additional insured for the performance of their ongoing operations for you on a primary and noncontributing basis on each of these policies except Workers' Compensation.

The Vendor's Insurance shall be written on an occurrence basis in the types, for the coverages, and for not less than the limits of liability, on a per site basis, as follows:

Workers Compensation affording coverage under the Workers Compensation laws of the State of New York and Employers Liability coverage subject to a limit of no less than \$1,000,000 each employee, \$1,000,000 each accident, and \$1,000,000 policy limit.

**B Commercial General Liability:**

Combined Single Limit -  
\$1,000,000 each occurrence  
\$2,000,000 general aggregate

such coverage shall include:

Premises-Operations, Owner's Protective, Products-Completed Operations, Contractual Liability covering the liability assumed by this Agreement, Personal Injury, Broad Form Property Damage (including Completed Operations), Broad Form Notice of Occurrence.

Commercial General Liability Insurance written on ISO form CG00 01 10/01 with limits of \$1,000,000 per occurrence Bodily Injury and Property Damage Combined, \$1,000,000 per occurrence Personal & Advertising Injury and \$2,000,000 General (per project) Aggregate. The policy shall be written on an occurrence basis. Any deductible shall be the responsibility of the Contractor Vendor

The policy shall not contain exclusions relating to:

- (a) contractual liability
- (b) independent contractors
- (c) gravity related injuries
- (d) injuries sustained by employee of an insured or any insured
- (e) height limitations
- (f) residential work (if applicable)

**C. Comprehensive Automobile Liability:**

Combined Single Limit  
\$1,000,000 each occurrence

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Such coverage will include all owned, non-owned, leased and hired automobiles.

Automobile Liability Insurance for Bodily Injury and Property Damage in the amount of \$1,000,000 combined and covering all owned, non-owned and hired vehicles. Policy shall include Owner as additional insured.

D. Umbrella Insurance:

Umbrella Liability Insurance for the total limit purchased by Contractor Vendor but, not less than a \$5,000,000 limit providing excess coverage over all limits and coverages noted in paragraph a., b., and c. above. This policy shall be written on an "occurrence" basis.

G. Property Insurance:

"All Risk" property coverage covering the Contractor Vendor's materials and equipment on the Site, in amounts sufficient to protect TDR. The Contractor Vendor assumes sole responsibility for any deductible amounts that may be applied in an insurance claim settlement for damage.

5.1.1 Insurance may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by an Excess or Umbrella policy.

5.1.2 The foregoing policies shall contain a provision that coverages afforded under the policies will not be cancelled or not renewed until at least thirty (30) days prior written notice has been given to TDR. Certificates of insurance acceptable to TDR shall be filed, in duplicate, with TDR upon execution of this Agreement.

5.1.3 Evidence (Notices) of Compliance

All policies shall be endorsed to provide that in the event of cancellation, non-renewal or material modification, Owner shall receive thirty (30) days prior written notice thereof.

Contractor Vendor shall furnish TDR/Owner with Certificates of Insurance, together with copies of the additional insured endorsement, no later than (5) days prior to commencement of work and upon TDR/Owner's request, shall provide TDR/Owner, with complete copies of the aforementioned policies including all endorsements attached thereto evidencing compliance with all insurance provisions noted above.

All Certificates and policy termination notices should be delivered via certified mail to:

Kelly Wildoner  
Chief Safety & Risk Officer  
Tioga Downs Racetrack, LLC  
2384 West River Road  
Nichols, NY 13812

**FAILURE TO COMPLY WITH ANY OF THE REQUIREMENTS NOTED ABOVE WILL RESULT IN A BREACH OF THIS CONTRACT BY THE CONTRACTOR VENDOR.**

TDR and Contractor Vendor waive all rights against each other and against TDR for damages caused by fire or other perils to the extent covered by Builder's Risk or any other property insurance, except such rights as they may have to the proceeds of such insurance.

*(Paragraphs deleted)*

**§ 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. The form of policy for this coverage shall be Completed value. The Contractor is responsible for all tools, equipment, materials, work,

etc., until substantial completion and possession by the Owner. The contractor shall provide insurance for theft as he may require for himself, his subcontractors and his employees' protection

**11.2.1.1** The owner shall purchase and maintain during the course of construction, "All Risk" property insurance noted in Paragraph 11.3 in an amount equal to 100% of the insurance value thereof. The insurance shall include all items of labor and materials, equipment and supplies, incident to the construction of said project, including all permanent fixtures and including temporary structures, scaffolding, stages and equipment not owned or rented by the Contractor, the cost of which is included in the cost of the work, while on the premises or within 100 feet thereof. This insurance shall not cover tools owned by mechanics, nor tools, equipment, forms, scaffolding, shanties, storage sheds, temporary offices and the like, owned or rented by the Contractor whether or not on the site of the work. The form of policy for this coverage shall be completed value. The deductible not to exceed \$1,000.00.

**11.2.1.2** Loss or delay by fire shall not affect the rights or obligations of either party under their contract except that in such events, the Contractor shall be entitled to reasonable extension of time for the performance of the Contract. The Contractor shall, upon written notice from the Owner, immediately proceed with the reinstallation of work damaged or destroyed. The Contractor must proceed with the work with the least possible delay without awaiting any award of insurance.

**§ 11.2.2 Failure to Purchase Required Property Insurance.** If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

**§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance.** Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

### **§ 11.3 Waivers of Subrogation**

#### **§ 11.3.1**

5.2 Waiver of Subrogation – Contractor Vendor agrees to waive its right of recovery and/or subrogation against TDR/Owner, owner's additional insured. All policies (except automobile) shall allow for a Waiver of Subrogation.

*(Paragraph deleted)*

### **§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance**

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

### **§11.5 Adjustment and Settlement of Insured Loss**

**§ 11.5.1** A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to

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requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

**§ 11.5.2** Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

## **ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**

### **§ 12.1 Uncovering of Work**

**§ 12.1.1** If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

**§ 12.1.2** If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

### **§ 12.2 Correction of Work**

#### **§ 12.2.1 Before Substantial Completion**

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

#### **§ 12.2.2 After Substantial Completion**

**§ 12.2.2.1** In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

**§ 12.2.2.2** The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

**§ 12.2.2.3** The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

### § 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

## 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, 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 Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

### § 13.5 Interest

Payments due and unpaid under the Contract Document shall bear interest from the date payment is due at the maximum legal rate of 9 percent per annum as required in the General Municipal Law, Section 3(a).

### § 13.6 Equal Opportunity

13.6.1 The Contractor Shall Maintain Policies Of Employment As Follows: The Contractor and the Contractor's Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

§ 13.6.2 The Contractor and the Contractor's Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or national origin.

### § 13.7 Wage Rates

§ 13.7.1 Contractor shall comply with Prevailing Wage Rates as issued by the State of New York Department of Labor for the location and duration of this Project. Current wage rates for this project are included as Attachment B to the Supplementary Conditions.

### § 13.8 USE OR OCCUPANCY OF BUILDING BY OWNER

13.8.1 Contractors shall cooperate with Owner in order to make portions of Project available as soon as possible.

13.8.2 Site and building, whether work of various Contractors is partially or fully completed or not, is property of Owner who shall have certain rights and privileges in connection with use of the same, including the following: Should there be, in the opinion of the Architect, unwarranted delay on the part of any Contractor in completion of incomplete or defective Work or other Contract requirements, and Architect so certifies, owner may have full or partial use and occupancy of any or all portions of buildings as required for moving in or installing furniture, fixtures, supplies, or equipment and for general cleaning and maintenance work. In such event, Contractor (of his unfinished Work is performed subsequent to installation of furniture, fixtures, equipment, etc.) shall be responsible for the prevention of any damage to such installation. Such use or occupancy by Owner shall in no instance constitute acceptance of any portion of the Work.

### 13.9 General Warranty

13.9.1 Neither final Certificate of Payment nor any provision in Contract Documents nor partial or entire occupancy

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of premises by Owner shall constitute acceptance of Work not performed in accordance with Contract Documents or relieve Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. Upon written notice from Architect, Contractor shall remedy any defects in the Work, and pay for any damage to other work resulting therefrom, which shall appear within a period of one (1) year, unless longer period is specified, from date of final payment for complete Work, or acceptance of any major portion of the premises. It is understood that the Owner will notify the Architect of observed defects with reasonable promptness after discovery.

### 13.10 PRIVILEGED LICENSE

Contractor Vendor acknowledges and agrees that Tioga Downs is subject to privileged licenses issued by governmental authorities. Contractor Vendor agrees, at all times during the Term, to obtain and maintain any licenses required by the New York State Gaming Commission for Contractor Vendor (and any of Contractor Vendor's owners, interest holders, agents and employees as may be required) and otherwise comply with the requirements of the New York State Gaming Commission and any other similar organization having jurisdiction over Tioga Downs at Contractor Vendor's sole cost and expense. If Contractor Vendor fails to apply for or maintain any such required license, Tioga Downs may immediately terminate this Agreement at no cost to Tioga Downs and with no further or continuing obligation or liability to Contractor Vendor or any of its owners, interest holders, agents or employees whatsoever.

#### Representations.

- (a) Contractor Vendor will apply for any and all licenses as may be required by any governmental authority or regulatory body having authority over the subject matter of this Agreement, including but not limited to the New York State Gaming Commission.
- (b) Contractor Vendor represents, warrants and covenants to Tioga Downs as follows: (1) all information furnished by Contractor Vendor to Tioga Downs in connection with Tioga Downs's due diligence and compliance review process is complete and accurate; (2) Vendor shall, in connection with this Agreement, (i) maintain complete and accurate books and records and (ii) comply with all applicable laws, rules and regulations, including, but not limited to, those relating to anti-corruption, anti-money laundering, competition, licensing and registration; and (3) Contractor Vendor has not offered or paid, and will not offer or pay, directly or indirectly, (a) anything of value to any public official or candidate for political office, or any relative or agent thereof, for purposes of obtaining any official action or benefit relating in any way to this Agreement or (b) any commission or finder's or referral fee to any person or entity in connection with this Agreement or any activities on behalf of Contractor Vendor.
- (c) Contractor Vendor currently is not and will not become a Federally Prohibited Person or a Gaming Prohibited Person.
- (d) Additionally, Contractor Vendor represents and warrants that they will be solely responsible for paying all costs associated with filing for, obtaining and maintaining the appropriate New York State Gaming Commission License. If Tioga Downs is invoiced by a State Agency for such costs, Contractor Vendor Represents and warrants that they will reimburse Tioga Downs for such costs in full and without offset within thirty (30) days.

Termination. Tioga Downs may immediately terminate this Agreement without any further or ongoing duties, obligations, or liability for any payments of any kind beyond the date of termination of this Agreement if any one of the following events should occur:

- (a) Contractor Vendor fails to apply for or maintain any license that is required by any governmental authority or regulatory body having authority over the subject matter of this Agreement, including but not limited to the New York State Gaming Commission;
- (b) Contractor Vendor becomes a Federally Prohibited Person or a Gaming Prohibited Person;
- (c) Tioga Downs is advised by its Compliance Committee or Counsel that the continued existence of this Agreement would put Tioga Downs or its affiliates in jeopardy of (i) losing a gaming license then held by

it, or (ii) being denied a gaming license otherwise available to it, because of Tioga Downs's relationship to Contractor Vendor as a result of this Agreement.

## **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 Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, 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 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 or entities 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 and the 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, 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 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 be certified by the Initial Decision Maker, upon application, 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 Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

#### § 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

### ARTICLE 15 CLAIMS AND DISPUTES

#### § 15.1 Claims

##### § 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

##### § 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, 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 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 and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

#### § 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks

sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

**§ 15.2.3** In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

**§ 15.2.4** If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

**§ 15.2.5** The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

**§ 15.2.6** Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

**§ 15.2.6.1** Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

**§ 15.2.7** In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

**§ 15.2.8** If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

**§ 15.2.9** All written claims for damages or extra work shall include time of occurrence, location and other identifying factors and shall be supported if so required by Architect, by letters, journals, or diaries, instructions, vouchers, or other pertinent or applicable records.

**§ 15.2.10** Owner shall not be liable to any Contractor or Subcontractor for damages caused by any breach of Contract, delay in performance or other act of neglect by other Contractors or Subcontractors having Contracts for performance of any portion of work.

### **§ 15.3 Mediation**

**§ 15.3.1** Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

**§ 15.3.2** The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties



or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

**§ 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.

**§ 15.3.5 Non-Binding Mediation.** The parties hereto, at the time any claim or dispute arises between them, may in their sole personal discretion agree to submit the same to non-binding mediation upon such terms and conditions as may be agreed at the time, but the decision to do so must be unanimous between them and must be in writing in advance thereof. The request for mediation is not to be deemed a condition precedent to any other right or remedy of the aggrieved party, all of which remedies and rights are expressly reserved by the parties.

#### **§ 15.4 Arbitration**

**§ 15.4.1** If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

**§ 15.4.1.1** A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

**§ 15.4.2** The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

**§ 15.4.3** The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

#### **§ 15.4.4 Consolidation or Joinder**

**§ 15.4.4.1** Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

**§ 15.4.4.2** Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

**§ 15.4.4.3** The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.



DOCUMENT 01 10 00

SUMMARY

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

- A. Design/Management Identification
- B. Work covered by Contract Documents
- C. Work Sequence
- D. Contractor use of Premises
- E. Occupancy Requirements

1.3 RELATED SECTIONS

- A. Section 01 50 00 - Temporary Facilities and Controls.

1.4 DESIGN/MANAGEMENT IDENTIFICATION

OWNER

Tioga Down Racetrack, LLC  
2384 West River Road  
Nichols, New York 13812

ARCHITECT

AJH Design  
111 East 14<sup>th</sup> Street  
Elmira Heights, NY 14903  
Phone: 607-737-4638

1.5 DESIGN AND CONSTRUCTION ADMINISTRATION WORK

- A. New timber frame reception/banquet center. Reception room, restrooms and food preparation kitchen with mechanical systems located in the accessible attic space. Construction work shall include general trades, HVAC, plumbing, fire protection, and electrical/data work as identified by the contract documents. Owner shall purchase food service equipment.
- B. This project requires a minimum (MWBE) Minority and Women Owned Business Enterprise participation of 30% of the total contract value. The prime contractor shall be responsible to provide goods and services utilizing Minority and Women Owned Business Enterprises in quantities to meet the minimum requirement.
- C. Contract Documents dated April 8, 2024 have been prepared for the Project by AJH Design, 111 East 14<sup>th</sup> Street, Elmira Heights, NY 14903.
- D. Prime Contract: The project will be constructed under a single Prime Contract Agreement.
- E. The following Documents are specifically included and defined as integral to the Contract:

1. Bidding requirements, contract forms and conditions of the Contract:
2. Invitation to Bidders
3. Instructions to Bidders
4. Supplementary Instructions to Bidders
5. Bid Form
6. General Conditions of the Contract for Construction (AIA Document A201)
7. Form of Agreement Between Owner and Contractor
8. Division 1 - General Requirements

#### 1.6 ADDITIONAL NOTES TO CONTRACT DOCUMENTS

- A. The following notes are integral to the Contract:
1. All bidders are forewarned to review all information of the Contract Documents.
  2. Review Section 01 23 00 for Alternate bid pricing required in Contractors scope of work.
  3. Review Section 01 50 00 for work requirements of temporary construction activities in Contractor's scope of work.
  4. The contractor is responsible for the layout and survey of their own work or work requirements.
  5. The contractor is required to construct the project per the schedule. The contractor shall cooperate fully with the intentions of the schedule. The Contractor is forewarned that any delay caused indirectly or directly by the acts, omissions, and/or failure to perform by the contractor or it's subcontractor will result in the Owner, or its agents, accomplishing the work by any means possible. The contractor will be responsible for any and all costs associated with such issues, including Owner costs, Architect/Engineer costs, inspections, etc.
  6. The Contractor shall provide any and all temporary shoring, bracing, supports or protection systems necessary to expedite the work requirements including the maintenance of worker safety.
  7. The Contractors is responsible for the safety of their own workers, subcontractors, work area, and other personnel on site. Each and every contractor is responsible for maintaining a safe work site and utilizing best safety procedures.
  8. In case of discrepancy between the Drawings and Specifications, interpretation shall be given preference in the following order, with later dates taking precedence over earlier dates:
    - a. Addenda
    - b. Amendments to the Drawings and Specifications
    - c. Drawings and SpecificationsIf discrepancies are found between the plans and specifications, include the more costly detail to the bid price.

#### 1.7 ADDITIONAL CONTRACTS DETAILS

- B. Unless otherwise indicated, the Work described shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
- C. Local custom and trade-union jurisdictional settlements do not control the scope of the Work. When a potential jurisdictional dispute or similar interruption of work is first identified or threatened, affected contractors shall negotiate a reasonable settlement to avoid or minimize interruption and delays.
- D. Within ten (10) working days after notice to proceed the prime contractor is to provide a schedule of work tasks and durations conforming to the project schedule. Schedule shall be provided in horizontal bar-chart-type construction schedule submittal showing design and construction operations sequenced and coordinated with overall construction schedule.

- E. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Division 1 Section "Temporary Facilities and Controls," the contractor is responsible for the following:
1. Installation, operation, maintenance, and removal of each temporary facility and costs and use charges associated with each facility as further described in the contract documents.
  2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
  3. Its own field office, complete with necessary furniture, utilities, and telephone service. At end of construction, when field offices are removed, the Contractor is responsible to return the area to its original condition, including any re-seeding required.
  4. Its own storage and fabrication sheds.
  5. Temporary enclosures for its own construction activities.
  6. Hoisting requirements for its own construction activities, including hoisting material outside building enclosure.
  7. Progress cleaning of its own areas on a daily basis.
  8. Secure lockup of its own tools, materials, and equipment.
  9. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.
- F. Temporary Heating, Cooling and Ventilation: The Contractor is responsible for temporary heating, cooling, and ventilation as required to complete the work as indicated by the contract documents and within the identified schedule.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION

### 3.1 WORK SEQUENCE

- A. All Work will be conducted in a single phase to provide the least possible interference to the activities of the Owner's operations.
1. The Contractor is expressly forewarned that impacts to the construction schedule during any phase or portion of the project will not be permitted.
- B. Work shall be completed and coordinated on site to provide continuous progress to achieve project completion as scheduled. Staging area shall be permitted in designated adjacent location.
- C. Work hours shall be between the hours of 7:00 AM and 5:00 PM daily, Monday through Friday. Activity and access shall be confined to the designated staging area.
- D. Activity in the staging area shall be conducted in a manner that causes minimal disruption.
- E. Should overtime or second shift work be required by any Contractor to ensure the completion within the specified schedule, all costs for this work is the responsibility of the Contractor.
- F. It is intended that the Work of the Project will be performed in a single phase. This is necessary in order to least impact the operational programs of the Owner and to insure maximum safety and security for all. The schedule is identified at the end of this specification section.

### 3.2 PRIME CONTRACTOR USE OF PREMISES

- A. General: The Contractor shall limit their use of the premises to the work areas indicated.
- B. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within the project site. Do not disturb portions of the site beyond the areas in which the work is indicated.

1. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, Architect, public traffic, and emergency vehicles 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.
2. Contractors will be instructed to use designated staging/parking areas before start of construction.

### 3.3 OCCUPANCY REQUIREMENTS

- A. Prior to Owner's occupancy, supplier's delivery of equipment and furnishings, and work by Owner's contractor, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. The contractor will operate and maintain mechanical and electrical systems until substantial completion.
- B. Upon occupancy, the Owner will assume responsibility for maintenance and custodial service for occupied portions of the building. However, the Owner will not clean up behind contractors; responsibility for any debris caused by contractor operations remains with the Contractor.

### 3.4 SCHEDULE:

- A. The contractor shall complete the work of this project within the schedule. Significant substantial completion dates shall be as follows.

Contract Award/Notice to Proceed:	June 7, 2024
Contract execution	June 21, 2024
Timber frame submittals	July 19, 2024
Foundation installation	July 26, 2024
Timber frame delivery	September 27, 2024
Timber frame erection	October 18, 2024
Building enclosed	November 22, 2024
Exterior finishes	December 13, 2024
Complete utilities	December 27, 2024
Substantial Completion of all work.	February 21, 2025
Project Closeout	30 days following substantial Completion.

END OF SECTION

SECTION 01 20 00  
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Schedule of values.
- B. Applications for payment.
- C. Change procedures.
- D. Defect assessment.

1.2 SCHEDULE OF VALUES

- A. Submit printed schedule on AIA Form G703 - Continuation Sheet for G702.
- B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement established in Notice to Proceed.
- C. Format: Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section. Identify site mobilization, bonds and insurance.
- D. Include in each line item, amount of Allowances specified in this section. For Unit Prices, identify quantities taken from Contract Documents multiplied by unit cost to achieve total for each item.
- E. Include separately from within each line item, direct proportional amount of Contractor's overhead and profit.
- F. Provide 1% of contract value for execution of closeout documents.
- G. Revise schedule to list approved Change Orders, with each Application for Payment.

1.3 APPLICATIONS FOR PAYMENT

- A. Submit three copies of each payment application on AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet for G702.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit at intervals stipulated in the Agreement.
- E. Submit with transmittal letter as specified for Submittals in Section 01 30 00.
- F. Submit Release of Liens and Certified Payrolls for work completed under each Payment Application.
- G. Provide 1% of contract value for execution of closeout documents.
- H. Substantiating Data: When Architect/Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
  - 1. Partial release of liens from major subcontractors and vendors.
  - 2. Record documents as specified in Section 01 70 00, for review by Owner which will be returned to Contractor.
  - 3. Affidavits attesting to off-site stored products.

#### 1.4 CHANGE PROCEDURES

- A. Submittals: Submit name of individual authorized to receive change documents and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. The Architect/Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions.
- C. The Architect/Engineer may issue a Proposal Request including a detailed description of proposed change with supplementary or revised Drawings and specifications, and a change in Contract Time for executing the change. The Contractor will prepare and submit estimate within 15 days.
- D. Contractor may propose changes by submitting a request for change to Architect/Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change, and effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors. Document requested substitutions in accordance with Section 01 60 00.
- E. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation
- F. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- G. Construction Change Directive: Architect/Engineer may issue directive, on AIA Form G713 Construction Change Directive signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- H. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Architect/Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
- I. Maintain daily detailed records of work completed on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work. Daily Time and Material tickets must be validated and signed by the Owner's Representative to be acceptable for issuance of the change order.
- J. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation.
- K. Change Order Forms: AIA G701 Change Order.
- L. Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- M. Correlation Of Contractor Submittals:
  - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
  - 2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.



3. Promptly enter changes in Project Record Documents.

#### 1.5 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Architect/Engineer, it is not practical to remove and replace the Work, the Architect/Engineer will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Architect/Engineer and Owner.
- D. Defective Work will be partially repaired to instructions of Architect/Engineer and Owner, and unit sum/price will be adjusted to new sum/price at discretion of Architect/Engineer and Owner.
- E. Individual specification sections may modify these options or may identify specific formula or percentage sum/price reduction.
- F. Authority of Architect/Engineer to assess defects and identify payment adjustments, is final.
- G. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:
  1. Products wasted or disposed of in a manner that is not acceptable.
  2. Products determined as unacceptable before or after placement.
  3. Products not completely unloaded from transporting vehicle.
  4. Products placed beyond lines and levels of required Work.
  5. Products remaining on hand after completion of the Work.
  6. Loading, hauling, and disposing of rejected products.

END OF SECTION



SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
  - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
  - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
  - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 SCHEDULE OF ALTERNATES

#### A. ALTERNATE 1: DELETE EXTERIOR PERGOLA STRUCTURE.

1. All work associated with the construction of the exterior pergola as indicated by the contract documents.
2. Work included in the alternate shall include the pergola structure, foundations, masonry piers, lighting, and electrical power connected to the pergola framework.
3. Base bid shall include all work associated with the pergola.

#### B. ALTERNATE 2: PROVIDE ASPHALT SHINGLES.

1. Provide asphalt roof shingles in lieu of polymeric roof shingles as indicated by the contract documents.
2. Base bid shall include polymeric shingles.
3. Provide underlayment and ice and water shield as indicated by the contract documents with both asphalt shingles and polymeric shingles.

#### C. ALTERNATE 3: PROVIDE STAINED CONCRETE FLOOR.

1. Provide stained concrete floor in lieu of exposed aggregate polished concrete floor finish.
2. Base bid shall include exposed aggregate polished concrete floor as indicated by the contract documents.
3. Refer to specification section 03 30 00 Cast in Place Concrete for stained concrete finish requirements.

#### D. ALTERNATE 3: DELETE IN-FLOOR RADIANT HEATING SYSTEM.

1. Delete all components associated with the in-floor radiant heating system.
2. Delete radiant floor heat tubing, boiler and manifold.
3. All spaces shall be heated utilizing the air handling unit in the attic space.
4. Base bid shall include in-floor radiant heating system.

END OF SECTION

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General coordination procedures.
  - 2. Coordination drawings
  - 3. Requests for Information (RFIs).
- B. Related Requirements:
  - 1. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
  - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
  - 2. Number and title of related Specification Section(s) covered by subcontract.
  - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
  - 1. Post copies of list in project meeting room, in temporary field office, on Project Web site, and by each temporary telephone. Keep list current at all times.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: the contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. The contractor shall coordinate its operations with operations, included in different sections and other contractors that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
  3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
  2. Preparation of the schedule of values.
  3. Installation and removal of temporary facilities and controls.
  4. Delivery and processing of submittals.
  5. Progress meetings.
  6. Preinstallation conferences.
  7. Project closeout activities.
  8. Startup and adjustment of systems.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

#### 1.6 SUBMITTAL PROCEDURES

- A. Number of Copies of Submittals:
1. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
  2. Submit a minimum of three and a maximum of six (6) opaque reproductions. If additional copies are required, provide three (3) opaque reproductions and one reproducible copy. Architect/Engineer will retain one copy.
  3. Documents for Project Closeout: Make one reproduction of submittal originally reviewed.

#### 1.7 SHOP DRAWING PROCEDURES:

- A. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
- B. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
- C. General
1. Transmit each submittal with cover form provided by Architect.

2. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
  3. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
  4. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
  5. Deliver submittals to Architect at business address.
  6. Schedule submittals to expedite the Project, and coordinate submission of related items.
  7. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
  8. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
  9. When revised for resubmission, identify all changes made since previous submission.
  10. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
  11. Submittals not requested, or incomplete, will not be recognized or processed.
- D. Product data
1. Product Data: Submit to for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
  2. Mark each copy to identify applicable products, models, options, and other data.
  3. Supplement manufacturers' standard data to provide information specific to this Project.
  4. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
  5. After review distribute in accordance with Submittal Procedures article above and provide copies for record documents described in Section 01 70 00.
- E. Shop drawings
1. Shop Drawings: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
  2. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
  3. After review distribute in accordance with Submittal Procedures article above and provide copies for record documents described in Section 01 70 00.
- F. Samples
1. Samples: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
  2. Samples For Selection as Specified in Product Sections:
    - a. Submit to Architect/Engineer for aesthetic, color, or finish selection.
    - b. Submit samples of finishes from full range of manufacturers' standard colors, in custom colors selected, textures, and patterns for Architect/Engineer selection.
  3. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
  4. Include identification on each sample, with full Project information.
  5. Submit number of samples specified in individual specification sections; Architect/Engineer will retain one sample.
  6. Reviewed samples which may be used in the Work are indicated in individual specification sections.
  7. Samples will not be used for testing purposes unless specifically stated in specification section.
  8. After review distribute in accordance with Submittal Procedures article above and provide copies for record documents described in Section 01 70 00.

- G. Design Data
  - 1. Submit for Architect/Engineer's knowledge as contract administrator or for Owner.
  - 2. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.
  
- H. Test Reports
  - 1. Submit for Architect/Engineer's knowledge as contract administrator or for Owner.
  - 2. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.
  
- I. Certificates
  - 1. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Architect/Engineer, in quantities specified for Product Data.
  - 2. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
  - 3. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect/Engineer.
  - 4.
  
- J. Manufacturer's Instructions
  - 1. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing.
  - 2. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
  
- K. Architect's Action
  - 1. Except for submittals for the record or information, where action and return is required, the Architect or his consultant will review each submittal, mark to indicate action taken, and return
    - a. Compliance with specified characteristics is the Contractor's responsibility.
  - 2. Action Stamp: The Architect will stamp each submittal with a uniform, action stamp. The Architect will mark the stamp appropriately to indicate the action taken, as follows:
    - a. Final Unrestricted Release: When the Architect marks a submittal "Reviewed" the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
    - b. Final-But-Restricted Release: When the Architect marks a submittal "Reviewed as Noted," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
    - c. Returned for Re-submittal: When the Architect marks a submittal "Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
    - d. Do not use, or allow others to use, submittals marked "Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
    - e. Rejected: When the Architect marks a submittal "Rejected," do not proceed with any Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Prepare a new submittal conforming to the product characteristics specified by the contract documents; resubmit without delay. Repeat if necessary to obtain different action mark.



- f. Submit Specified Item: When submittal is marked "Submit Specified Item", the Contractor shall immediately resubmit the specified item.
- 3. Other Action: Where a submittal is primarily for information or record purposes, special processing or other activity, the submittal will be returned marked "Action Not Required".

#### 1.8 ELECTRONIC SUBMITTAL PROCEDURES

- A. Using the electronic cover sheet provide by the Architect in Excel format, fill out the information required for the submittal. Each submittal must be provided with the submittal cover sheet.
- B. Convert/print cover sheet to a PDF format.
- C. Combine PDF cover sheet with product submittal. Cover sheets are to precede the product submittal information.
- D. If shop drawings are over 11" x 17" in size, hard copies are to be provided.
- E. Electronic submittals shall be delivered by email or transferred by other approved electronic transfer

#### 1.9 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI.
  - 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
  - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
  - 1. Project name.
  - 2. Project number.
  - 3. Date.
  - 4. Name of Contractor.
  - 5. Name of Architect.
  - 6. RFI number, numbered sequentially.
  - 7. RFI subject.
  - 8. Specification Section number and title and related paragraphs, as appropriate.
  - 9. Drawing number and detail references, as appropriate.
  - 10. Field dimensions and conditions, as appropriate.
  - 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  - 12. Contractor's signature.
  - 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Architect.
  - 1. Attachments shall be electronic files in Adobe Acrobat PDF format.

- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI.
1. The following Contractor-generated RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for approval of Contractor's means and methods.
    - d. Requests for coordination information already indicated in the Contract Documents.
    - e. Requests for adjustments in the Contract Time or the Contract Sum.
    - f. Requests for interpretation of Architect's actions on submittals.
    - g. Incomplete RFIs or inaccurately prepared RFIs.
  2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
  3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architecting writing within 10 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Software log with not less than the following:
1. Project name.
  2. Name and address of Contractor.
  3. Name and address of Architect.
  4. RFI number including RFIs that were returned without action or withdrawn.
  5. RFI description.
  6. Date the RFI was submitted.
  7. Date Architect's response was received.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
  2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.
- 1.10 PROJECT MEETINGS
- A. General: Architect will schedule and conduct meetings and conferences at project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting.
  2. Minutes: Architect will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Contractor.
- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Contractor, but no later than 15 days after execution of the Agreement.
1. Review responsibilities and personnel assignments.
  2. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, Architect, Engineer, Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Phasing.
    - c. Critical work sequencing and long-lead items.
    - d. Designation of key personnel and their duties.
    - e. Lines of communications.
    - f. Procedures for processing field decisions and Change Orders.
    - g. Procedures for RFIs.
    - h. Procedures for testing and inspecting.
    - i. Procedures for processing Applications for Payment.
    - j. Distribution of the Contract Documents.
    - k. Submittal procedures.
    - l. Preparation of record documents.
    - m. Use of the premises and existing building.
    - n. Work restrictions.
    - o. Working hours.
    - p. Owner's occupancy requirements.
    - q. Responsibility for temporary facilities and controls.
    - r. Procedures for moisture and mold control.
    - s. Procedures for disruptions and shutdowns.
    - t. Construction waste management and recycling.
    - u. Parking availability.
    - v. Office, work, and storage areas.
    - w. Equipment deliveries and priorities.
    - x. First aid.
    - y. Security.
    - z. Progress cleaning.
  4. Minutes: Architect will record and distribute meeting minutes.
- C. Progress Meetings: Architect will conduct progress meetings at bi-weekly intervals.
1. Attendees: In addition to representatives of Owner, Owner's Commissioning Authority, Architect and Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with project and authorized to conclude matters relating to the Work.
  2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the contract time.
      - 1) Review schedule for next period.
    - b. Review present and future needs of each entity present, including the following:
      - 1) Interface requirements.
      - 2) Sequence of operations.
      - 3) Status of submittals.
      - 4) Deliveries.
      - 5) Off-site fabrication.
      - 6) Access.
      - 7) Site utilization.

- 8) Temporary facilities and controls.
  - 9) Progress cleaning.
  - 10) Quality and work standards.
  - 11) Status of correction of deficient items.
  - 12) Field observations.
  - 13) Status of RFIs.
  - 14) Status of proposal requests.
  - 15) Pending changes.
  - 16) Status of Change Orders.
  - 17) Pending claims and disputes.
  - 18) Documentation of information for payment requests.
3. Minutes: Architect will record and distribute the meeting minutes to each party present and to parties requiring information.
    - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 35 17  
ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Requirements for protection of existing facilities.
  2. Demolition and removals.
  3. Cutting and Patching Requirements
  4. Hazardous materials procedures.

1.2 SUBMITTALS

- A. Comply with requirements of Section 01 31 00 as modified below:
1. Submit written explanation of "cutting and patching" procedures when construction means and methods deviate from standard industry practices. At a minimum provide the following:
    - a. Describe extent of cutting and patching, and methods to be used.
    - b. Products to be used.
    - c. Utilities that will be affected.
    - d. Details and Engineering calculations when structural members will be affected either by adding reinforcement or altering the structural member.

1.3 DEFINITIONS

- A. "Cutting and Patching" – The process of "opening up", or "exposing" new or existing construction to facilitate the coordination of work, the installation of new work, the testing or inspection of work or building components, and the subsequent "closing up" or "restoration" of affected area back to its original condition.

1.4 PROTECTION OF EXISTING FACILITIES

- A. Responsibilities of The Contractor
1. Provide and maintain protective measures required to prevent damage to existing facilities and to protect workmen and public, including protective construction required by applicable state and municipal laws, OSHA regulations, Contract Documents, site conditions, and as considered normal for operations involved in the work.
    - a. Construct protective measures of types and materials that provide required protection continuously.
    - b. Remove protective measure only when need for protection no longer exists.
    - c. Provide additional protection as directed by Architect.
  2. Roof Protection: During operations on existing or newly-constructed roofs, provide protection for roof in work area in adjacent roof areas.
    - a. Where construction operations on roof require removal of existing roofing system, apply roof protection to roof areas adjacent to work area and to approved access routes to work area.
    - b. Where construction operations on roof do not require removal of existing roofing system, apply roof protection to all roof areas in work area and to approved access routes to work area.
    - c. Limit traffic on roof to protected areas.
    - d. Strictly comply with roof protection recommendations of agency, or agencies, holding bond, guarantee, or warranty in force for existing roof; however, if such recommendations are not available, provide minimum protection as follows:

- 1) Minimum 1 layer of 1/2" exterior grade plywood laid over existing roof with 1 layer of 1/8" asphalt saturated protection board on top of plywood.
  - e. Where roofing is cut to permit new construction, provide temporary roofing, temporary curbs, temporary coverings, and similar measures to prevent entrance of water. Refer to Section 01 50 00. Remove minimum amount of existing roofing and insulation required to accomplish new construction.
- B. Damage to Existing Construction
1. The Contractor shall be responsible for damage to existing and newly installed construction caused by his, or his subcontractor's personnel and he shall repair, replace, or restore damaged construction immediately without additional cost to Owner.
    - a. If the Contractor fails to immediately make efforts to repair, replace, or restore damaged construction, Owner may, after due notice, accomplish required repair, restoration, or replacement in accordance with provisions in General Conditions.
    - b. Reimburse any other Contractor for additional cost resulting from failures described above.
    - c. The Owner will make no additional payment to the Contractor for additional work resulting from failures described above.
    - d. When damage to existing facilities occur and Contractors do not admit to damage the Architect will research to find responsible party. If party cannot be determined all contractors will share the cost of appropriate repairs to return the damaged area to original condition.
  2. Provide work required to repair, reconstruct, or replace existing construction due to failure of protective measures provided or due to failure of Prime Contractor to provide adequate protective measures.
    - a. Coordinate all repair, replacement, or restoration activities through the Architect.
    - b. Patch damaged surfaces and refinish to match existing surfaces as required or as directed by Architect.

## 1.5 DEMOLITION AND REMOVALS

- A. Responsibility for Demolition and Removals
1. The Contractor shall provide cutting and patching of existing surfaces disturbed by the work of their contract unless noted to be provided by another contract.
  2. The Contractor shall make provisions for removal, demolition, or disconnection of existing construction, equipment, and similar items as required for completion of his contract as shown in the Contract Documents, or encountered during the Project.
    - a. Coordinate requirements for removal, disconnection, or demolition with other Contractors.
    - b. Remove all related items not shown or specified as required to complete removals shown on Drawings, including but not limited to insulation, hangers, supporting construction, and similar items. Consult Architect for instructions when such removals involve removal or cutting of structural components.
  3. Equipment removal:
    - a. Owner shall remove furniture and small loose equipment, unless otherwise specified. Review removals with Owner prior to beginning demolition and removals.
    - b.
- B. Verification of Conditions: The Prime Contractor shall be responsible for visiting the site and building, studying the Drawings, making his own determination as to items and quantities of demolition and removal required, and including required demolition and removals in his bid.
1. Additional payment will not be made on claims resulting from incomplete estimate of demolition or removals by Prime Contractor.
  2. Any definition of scope of demolition and removals within Contract Documents is intended to establish general limits and responsibilities for demolition and removal work.

- a. Where details in Construction Documents indicate a typical situation requiring demolition or removals, consider such situation to apply to similar conditions throughout and make required demolition or removals.
  - b. Verify exact locations of existing piping shown on Drawings.
- C. Concealed Conditions
1. Where structural items, piping, conduit, or other items are exposed during demolition whose function is unknown, notify Architect and await instructions before proceeding with removal.
  2. Where exact locations of existing piping differs from locations shown on drawings, modify indicated connections, relocations, and deletions as required by project conditions, including necessary extensions with new piping to nearest approved point of connection.
- D. Safety: carefully perform demolition and removals in such manner to ensure safety in handling and to prevent damage to construction and materials indicated to remain.
1. Provide shoring, bracing, and other temporary measures as required to maintain safe conditions, including structural safety of building.
  2. Provide rigging, hoists, cutting equipment, and similar items required for demolition and removals.
- E. Disposal of removed materials
1. Materials, fixtures, and equipment requested by owner while still in place, or before removal from site, shall be left on site in location designated by owner. itemize in memorandum of transmittal, and obtain receipt from Owner or Architect for all such items.
  2. Materials, fixtures, and equipment not designated to be reinstalled, relocated, or turned over to owner and all waste materials and debris shall be promptly removed to dumpsters and legally disposed of.
    - a. Materials or fixtures suitable for re-use may be used in temporary structured or partitions only.
    - b. No removed materials, fixtures, or equipment items shall be reused in permanent structure, unless specified in contract documents.

## 1.6 CUTTING AND PATCHING

- A. Cut back around removals to point where removal can be concealed with construction matching existing adjacent surfaces.
- B. Trim edges of cuts neatly and properly where cuts are to be left exposed or where replacement work is to be installed.
- C. Cap, plug, or otherwise seal disconnected items, openings, or devices.
- D. The contractor is responsible for all expenses related to "cutting and patching" procedures required to complete the work of their contract.
- E. Do not cut and patch structural elements in a manner that would change their load bearing capacity or load - deflection ratio without first receiving approval from the Architect.
  1. Specific items include:
    - a. Foundation construction.
    - b. Bearing and retaining walls.
    - c. Structural concrete.
    - d. Structural steel.
    - e. Lintels.
    - f. Miscellaneous structural metals.
    - g. Equipment supports.
    - h. Piping, ductwork, vessels, and equipment.
    - i. Structural systems of special construction.

- F. Do not cut and patch operating elements or related components that would result in reducing their capacity to perform as intended or increase maintenance or decrease operational life or safety.
  - 1. specific items include:
    - a. Primary operational systems and equipment.
    - b. Communication systems.
    - c. Electrical wiring systems.
- G. Provide cutting and patching operations to ensure new work is flush with existing adjacent surfaces and terminations.
- H. When finished surfaces are cut so that smooth transition with new work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect/Engineer for review.
- I. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing smooth transition; to Architect/Engineer for review.
- J. Prepare substrates to receive new finish as required for proper application of new finish in accordance with new finish manufacturer's recommendations for existing conditions, including patching holes, leveling uneven surfaces, and similar work. Remove existing finishes where new wall, floor, or ceiling finishes are indicated.

#### 1.7 EXECUTION

A.

#### 1.8 HAZARDOUS MATERIALS PROCEDURES

- A. Hazardous materials: Each contractor is advised that if materials suspected to be lead, PCB, or asbestos, or to contain asbestos, are encountered during construction, he shall immediately notify Architect and take precautions as required to avoid disturbing materials until directed by Architect.

END OF SECTION



SECTION 01 40 00  
QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Tolerances
- C. References.
- D. Manufacturers' field services.
- E. Examination.
- F. Preparation.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

#### 1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of building permit issued.
- C. When specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect/Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.

#### 1.5 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Architect/Engineer 10 days in advance of required observations. Observer subject to approval of Architect/Engineer and Owner.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01 31 00 - SUBMITTAL PROCEDURES AND MANUFACTURERS' FIELD REPORTS article.

#### PART 2 PRODUCTS

Not Used.

#### PART 3 EXECUTION

##### 3.1 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION



DOCUMENT 01 41 00

SPECIAL INSPECTIONS & STRUCTURAL TESTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 GENERAL REQUIREMENTS

- A. Special Inspections and Structural Testing shall be in accordance with Chapter 17 of the Uniform Building Code.
- B. Special Inspections and Structural Testing shall be in accordance with CASE National Practice Guideline for Special Inspections.
- C. The program of Special Inspection and Structural Testing is a Quality Assurance program intended to ensure that the work is performed in accordance with the Contract Documents.
- D. This specification section is intended to inform the Contractor of the Owner's quality assurance program and the extent of the Contractor's responsibilities. This specification section is also intended to notify the Special Inspector, Testing Laboratory, and other Agents of the Special Inspector of their requirements and responsibilities.

1.3 SCHEDULE OF INSPECTIONS AND TESTS

- A. Required inspections and tests are described in the attached Schedule of Special Inspections and in the individual specification Sections for the items to be inspected or tested.

1.4 QUALIFICATIONS

- A. The Special Inspector shall be a licensed Professional Engineer or Structural Engineer who is approved by the Structural Engineer of Record (SER) and Code Enforcement Officer.
- B. The Testing Laboratory and individual technicians shall be approved by the Structural Engineer of Record (SER) and Code Enforcement Officer.
- C. The testing laboratory shall maintain a full time licensed Professional Engineer or Structural Engineer on staff who shall certify all test reports. The Engineer shall be responsible for the training of the testing technicians and shall be in responsible charge of the field and laboratory testing operations.
- D. Special Inspections shall be performed by inspectors who are either licensed Professional Engineers (P.E.), Structural Engineers (S.E.), or Engineers-In-Training (EIT) with an education and background in structural engineering except as indicated below.
  - 1. Special Inspections of soils and foundations may be performed by inspectors with an education and background in geotechnical engineering in lieu of a background in structural engineering.
  - 2. Technicians performing sampling and testing of concrete shall be ACI certified Concrete Field Testing Technicians - Grade 1.
  - 3. Inspectors performing inspections of concrete work such as inspections of concrete placement, batching, reinforcing placement, curing and protection, may be ACI certified Concrete Construction Inspectors or ICBO certified Reinforced Concrete Special Inspector in lieu of being a licensed P.E., S.E., or EIT.

4. Inspectors performing inspections of prestressed concrete work may be ICBO/BOCA/SBCCI certified Prestressed Concrete Special Inspector.
5. Inspectors performing inspections of masonry may be ICBO certified Structural Masonry Special Inspector.
6. Technicians performing visual inspection of welding shall be AWS Certified Welding Inspectors or ICBO certified Structural Steel and Welding Special Inspectors, technicians performing non-destructive testing such as ultrasonic testing, radiographic testing, magnetic particle testing, or dye-penetrant testing shall be certified as an ASNT-TC Level II or Level III technician.
7. Inspectors performing inspections of spray fireproofing may be ICBO certified Spray-Applied Fireproofing Special Inspector.
8. Technicians performing standard tests described by specific ASTM Standards shall have training in the performance of such tests and must be able to demonstrate either by oral or written examination competence for the test to be conducted. They shall be under the supervision of a licensed Professional Engineer and shall not be permitted to independently evaluate test results.

#### 1.5 SUBMITTALS

- A. The Special Inspector and Testing Laboratory shall submit to the SER and Code Enforcement Officer for review a copy of their qualifications which shall include the names and qualifications of each of the individual inspectors and technicians who will be performing inspections or tests.
- B. The Special Inspector and Testing Laboratory shall disclose any past or present business relationship or potential conflict of interest with the Contractor or any of the Subcontractors whose work will be inspected or tested.

#### 1.6 PAYMENT

- A. The Owner shall engage and pay for the services of the Special Inspector, Agents of the Special Inspector, and Testing Laboratory.
- B. If any materials which require Special Inspections are fabricated in a plant which is not located within 100 miles of the project, the Contractor shall be responsible for the travel expenses of the Special Inspector or Testing Laboratory.
- C. The Contractor shall be responsible for the cost of any retesting or reinspection of work which fails to comply with the requirements of the Contract Documents.

#### 1.7 CONTRACTOR RESPONSIBILITIES

- A. The Contractor shall cooperate with the Special Inspector and his agents so that the Special Inspections and testing may be performed without hindrance.
- B. The Contractor shall review the Statement of Special Inspections and shall be responsible for coordinating and scheduling inspections and tests. The Contractor shall notify the Special Inspector or Testing Laboratory at least 24 hours in advance of a required inspection or test. Uninspected work that required inspection may be rejected solely on that basis.
- C. The Contractor shall provide incidental labor and facilities to provide access to the work to be inspected or tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, storage and curing of test samples.
- D. The Contractor shall keep at the project site the latest set of construction drawings, field sketches, approved shop drawings, and specifications for use by the inspectors and testing technicians.

- E. The Special Inspection program shall in no way relieve the Contractor of his obligation to perform work in accordance with the requirements of the Contract Documents or from implementing an effective Quality Control program. All work that is to be subjected to Special Inspections shall first be reviewed by the Contractor's quality control personnel.
- F. The Contractor shall be solely responsible for construction site safety.

#### 1.8 LIMITS ON AUTHORITY

- A. The Special Inspector or Testing Laboratory may not release, revoke, alter, or enlarge on the requirements of the Contract Documents.
- B. The Special Inspector or Testing Laboratory will not have control over the Contractor's means and methods of construction.
- C. The Special Inspector or Testing Laboratory shall not be responsible for construction site safety.
- D. The Special Inspector or Testing Laboratory has no authority to stop the work.

#### 1.9 STATEMENT OF SPECIAL INSPECTIONS

- A. The Statement of Special Inspections will be prepared by the Structural Engineer of Record (SER). Refer to the attached forms.
- B. The Statement of Special Inspections shall be submitted with the application for Building Permit.

#### 1.10 RECORDS AND REPORTS

- A. Detailed daily reports shall be prepared of each inspection or test and submitted to the Special Inspector. Reports shall include:
  - 1. date of test or inspection
  - 2. name of inspector or technician
  - 3. location of specific areas tested or inspected
  - 4. description of test or inspection and results
  - 5. applicable ASTM standard
  - 6. weather conditions
  - 7. Engineer's seal and signature
- B. The Special Inspector shall submit interim reports to the Code Enforcement Officer at the end of each week which include all inspections and test reports received that week. Copies shall be sent to the SER, Architect, and Contractor.
- C. Any discrepancies from the Contract Documents found during a Special Inspection shall be immediately reported to the Contractor. If the discrepancies are not corrected, the Special Inspector shall notify the SER and Code Enforcement Officer. Reports shall document all discrepancies identified and the corrective action taken.
- D. The Testing Laboratory shall immediately notify the Special Inspector and the SER by telephone or fax of any test results which fail to comply with the requirements of the Contract Documents.
- E. Reports shall be submitted to the Special Inspector within 7 days of the inspection or test. Hand written reports may be submitted if final typed copies are not available.

- F. At the completion of the work requiring Special Inspections, each inspection agency and testing laboratory shall provide a statement to the Special Inspector that all work was completed in substantial conformance with the Contract Documents and that all appropriate inspections and tests were performed.

#### 1.11 FINAL REPORT OF SPECIAL INSPECTIONS

- A. The Final Report of Special Inspections shall be completed by the Special Inspector and submitted to the SER and Code Enforcement Officer prior to the issuance of a Certificate of Use and Occupancy. Refer to the attached forms.
- B. The Final Report of Special Inspections will certify that all required inspections have been performed and will itemize any discrepancies that were not corrected or resolved.

PART 2 – PRODUCTS (not applicable)

PART 3 – EXECUTION (not applicable)



Statement of Special Inspections

Project: **Tioga Downs Reception Center**  
Location: **2384 West River Road, Nichols, New York 13812**  
Owner: **Tioga Downs Racetrack, LLC**  
Owner's Address: **2384 West River Road  
Nichols, New York 13812**  
Architect of Record: **AJH Design  
111 East 14<sup>th</sup> Street  
Elmira Heights, NY 14903**  
Structural Engineer of Record: **AJH Design  
111 East 14<sup>th</sup> Street  
Elmira Heights, NY 14903**

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection requirements of the Building Code. It includes a Schedule of Special Inspection Services applicable to this project as well as the name of the Special Inspector and the identity of other approved agencies intended to be retained for conducting these inspections.

The Special Inspector shall keep records of all inspections and shall furnish inspection reports to the Code Enforcement Official, Structural Engineer and Architect of Record. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Code Enforcement Official, Structural Engineer and Architect of Record. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Code Enforcement Official, Owner, Structural Engineer and Architect of Record.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Interim Report Frequency: *Weekly* or  per attached schedule.

Prepared by:

Andrew J. Harding, AIA, NCARB  
(type or print name)



\_\_\_\_\_  
Signature Date

Owner's Authorization:

Code Enforcement Official's Acceptance:

\_\_\_\_\_  
Signature Date

\_\_\_\_\_  
Signature Date

# CASE Council of American Structural Engineers

## 1. Schedule of Special Inspection Services

The following sheets comprise the required schedule of special inspections for this project. The construction divisions which require special inspections for this project are as follows:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Soils and Foundations  | <input type="checkbox"/> Spray Fire Resistant Material         |
| <input checked="" type="checkbox"/> Cast-in-Place Concrete | <input checked="" type="checkbox"/> Wood Construction          |
| <input type="checkbox"/> Precast Concrete                  | <input type="checkbox"/> Exterior Insulation and Finish System |
| <input type="checkbox"/> Masonry                           | <input type="checkbox"/> Mechanical & Electrical Systems       |
| <input type="checkbox"/> Structural Steel                  | <input type="checkbox"/> Architectural Systems                 |
| <input type="checkbox"/> Cold-Formed Steel Framing         | <input type="checkbox"/> Special Cases                         |

Inspection Agents	Firm	Address
1. Inspector		
2. Inspector		
3. Inspector		
4. Testing Laboratory		
5. Testing Laboratory		
6. Other		

Note: The inspection and testing agent shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Code Enforcement Official, prior to commencing work.

Seismic Design Category	A
Basic Wind Speed	90 mph
Wind Exposure Category	B

#### 4. Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection activities are subject to the approval of the Code Enforcement Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

It is recommended that the person administering the Special Inspections program be a Structural Engineer or a Professional Engineer experienced in the design of buildings.

Key for Minimum Qualifications of Inspection Agents:

When the Structural Engineer of Record deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agent Number* on the *Schedule of Special Inspections*.

- SE Structural Engineer** – a licensed SE or PE specializing in the design of building structures. This may be required for the inspection of critical structural elements.
- GE Geotechnical Engineer** – a licensed PE specializing in soil mechanics and foundations. This may be required for the inspection of difficult soil conditions or deep foundations.
- EIT Engineer-In-Training** – a graduate engineer who has passed the Fundamentals of Engineering examination. This may be required for the inspection of elements that require some engineering training to properly evaluate.
- ACI American Concrete Institute - Level I Certified Concrete Field Testing Technician.** This certification is appropriate for individuals performing concrete sampling, slump tests, air-content tests, temperature tests, unit weight tests, and casting compression test cylinders.
- AWS American Welding Society - Certified Welding Inspector (CWI).** This certification is appropriate for individuals performing visual inspection of welds.
- ASNT American Society of Non-Destructive Testing** – Level II or III. This certification is appropriate for individuals performing ultra-sonic testing of welds.
- SMSI Structural Masonry Special Inspector** – certification by ICBO.
- SWSI Structural Steel and Welding Special Inspector** – certification by ICBO.
- SFSI Spray-Applied Fireproofing Special Inspector** – certification by ICBO.
- PCSI Prestressed Concrete Special Inspector** – certification jointly sponsored by ICBO, BOCA and SBCCI with participation from PCI and PTI.
- RCSI Reinforced Concrete Special Inspector** – certification jointly sponsored by ACI, ICBO, BOCA and SBCCI.

**Soils and Foundations**

Schedule of Special Inspection Services

ACTIVITY / SCOPE	BC-NYS SECTION	REFERENCE STANDARD	FREQUENCY		SP. INSP. (Qual.)
			Cont.	Per.	
5. Site Preparation a. Verify site has been prepared in accordance with drawings	1704.7.1	HS-S0.1		X	
6. Controlled Structural Fill a. Verify maximum lift placement, conformance to material gradation requirements, and in-place density	1704.7.2, 1704.7.3	HS-S0.1	X		
7. Other					



Wood Framing

Schedule of Special Inspection Services

ACTIVITY / SCOPE	BC-NYS SECTION	REFERENCE STANDARD	FREQUENCY		SP. INSP. (Qual.)
			Cont.	Per.	
1. For prefabricated wood structural elements, inspection of the fabrication process and assemblies	1704.2.5				
2. For high-load diaphragms, verify grade and thickness of structural panel sheathing agree with approved building plans.					
3. For high-load diaphragms, verify nominal size of framing members at adjoining panel edges, nail or staple diameter and length, number of fastener lines, and that spacing between fasteners in each line and at edge margins agree with approved building plans.					
4. Metal-plate connected wood trusses a. Verification that permanent individual truss member restraint/bracing has been installed in accordance with the approved truss submittal package when the truss height is greater than or equal to 60". b. For trusses spanning 60 feet or greater: verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package.				X	

Final Report of Special Inspections

**CASE** Council of American Structural Engineers

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Project: **Tioga Downs Reception Center**  
Location: **Nichols, New York**  
Owner: **Tioga Downs Racetrack, LLC**  
Owner's Address: **2384 West River Road  
Nichols, New York 13812**

Architect of Record: **AJH Design  
Andrew J. Harding, AIA, NCARB.**

Structural Engineer of Record: **AJH Design  
Andrew J. Harding, AIA, NCARB.**

To the best of my information, knowledge and belief, the Special Inspections required for this project, and itemized in the Statement of Special Inspections submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

(Attach continuation sheets if required to complete the description of corrections.)

Interim reports submitted prior to this final report form a basis for, and are to be considered an integral part of this final report.

Respectfully submitted,  
Special Inspector

\_\_\_\_\_  
(Type or print name)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Final Report of Special Inspections



# CASE Council of American Structural Engineers

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Agent's Final Report

Project: **Tioga Downs Reception Center**  
**2384 West River Road**  
**Nichos, New York 13812**

Agent:

Special Inspector:

To the best of my information, knowledge and belief, the Special Inspections or testing required for this project, and designated for this Agent in the Statement of Special Inspections submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

(Attach continuation sheets if required to complete the description of corrections.)

Respectfully submitted,  
Agent of the Special Inspector

\_\_\_\_\_  
(Type or print name)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Licensed Professional Seal or  
Certification

CASE Form 102 ©CASE 2001

END OF SECTION



DOCUMENT 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities:
  - 1. Temporary electricity.
  - 2. Temporary lighting for construction purposes.
  - 3. Temporary heating.
  - 4. Temporary ventilation.
  - 5. Telephone service.
  - 6. Temporary water service.
  - 7. Temporary sanitary facilities.
  
- B. Construction Facilities:
  - 1. Vehicular access.
  - 2. Parking.
  - 3. Progress cleaning and waste removal.
  - 4. Snow removal.
  - 5. Field offices.
  
- C. Temporary Controls:
  - 1. Removal of utilities, barriers and controls.
  - 2. Barriers.
  - 3. Exterior Enclosures.
  - 4. Security.
  - 5. Noise control.
  - 6. Pest control.
  - 7. Pollution control.
  - 8. Rodent control.
  
- D. Removal of utilities, facilities, and controls.

1.2 TEMPORARY ELECTRICITY

- A. The electrical trades contractor shall be responsible for providing temporary electric power panel from the Owner's existing power source. Provide a minimum of eight temporary service receptacles accessible to all contractors within the area of the building addition.
  
- B. Contractor shall be responsible to provide temporary power to all contractor's field offices.
  
- C. Coordinate work with local power provider and existing power supply
  
- D. Provide flexible power cords as required for portable construction tools and equipment.
  
- E. Owner shall pay use charges associated with temporary power. Exercise measures to conserve energy.

### 1.3 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain incandescent lighting for construction operations to achieve minimum lighting level of 2 watt/sq. ft.
- B. Each contractor shall be responsible to provide power cords from temporary power source to lighting conductors, pigtails, and lamps for required lighting.
- C. Contractors requiring temporary lighting shall provide power and lighting fixtures as required to complete the work of their contract. Provide branch wiring from power source to junction boxes with lighting conductors, pigtails, and lamps for specified lighting levels.
- D. Maintain lighting and provide routine repairs.

### 1.4 TEMPORARY HEATING

- A. The General trades contractor shall provide temporary heat to maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in product sections.
- B. The contractor will pay cost of temporary heat energy source. Exercise measures to conserve energy.
- C. Enclose building prior to activating temporary heat in accordance with Enclosures article in the is section.
- D. Prior to operation of permanent equipment, the contractor is to verify installation is approved for operation, equipment is lubricated, and filters are in place. Gain Architect's approval of permanent equipment. The contractor shall pay for replacement of filters and worn or consumed parts.

### 1.5 TEMPORARY VENTILATION

- A. Each contractor shall provide adequate means of mechanical ventilation and off-gassing as required for their own work. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

### 1.6 TELEPHONE SERVICE

- A. Each contractor shall provide, maintain, and pay for cellular telephone service for the project Foreman at time of project mobilization.

### 1.7 TEMPORARY WATER SERVICE

- A. Each contractor shall provide temporary water hoses as required to complete their work: Provide  $\frac{3}{4}$  inch, heavy-duty, abrasion-resistant, flexible rubber hoses.
- B. Connect to water supply at nearest source.
- C. Owner will pay cost of temporary water. Exercise measures to conserve energy.

1.8 TEMPORARY SANITARY FACILITIES

- A. The contractor shall provide and maintain one portable sanitary facility with paper products and hand sanitizer. Existing facility use is not permitted. Provide facilities at time of project mobilization. Maintain supply of sanitary products.

1.9 .The contractor shall clean the temporary facility to a sanitary condition weekly.

1.10 VEHICULAR ACCESS AND PARKING

- A. Use of existing site for parking facilities by construction personnel will be permitted at designated locations only.
- B. Tracked vehicles not allowed on paved areas.
- C. The contractor shall repair existing and permanent facilities damaged by use, to original and/or specified condition.
- D. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- E. Coordinate access and haul routes with governing authorities and Owner.
- F. Provide and maintain access to fire hydrants and control valves, free of obstructions.
- G. Maintenance:
  - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, product, mud, and ice.
  - 2. The contractor shall maintain existing a areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain drainage in original, or specified, condition.
- H. Removal, Repair:
  - 1. Remove temporary materials and construction when permanent paving is usable.
  - 2. Each contractor shall remove underground work and compacted materials, pertaining to their contract, to depth of 2 feet unless noted otherwise; fill and grade site as specified.
  - 3. Repair existing and permanent facilities damaged by use, to original and/or specified condition.

1.11 PROGRESS CLEANING AND WASTE REMOVAL

- A. General trades contractor shall provide and pay for dumpster service. Dumpsters shall be located at the site, accessible to building and roads.
- B. Remove debris and rubbish from pipe chases, plenums, attics and other closed or remote spaces, prior to enclosing spaces.
- C. Each contractor shall collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.

- D. General Contractor to provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- E. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- F. Provide containers with lids. Remove trash from site weekly or when dumpster is full.
- G. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- H. Contractors shall collect waste from construction areas and elsewhere, and load to dumpsters daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris.
- I. Load legally acceptable construction debris to the Dumpster (from this project only). Cost of all disposal fees shall be the responsibility of the general trades contractor.
- J. Dumpsters shall remain on the project until project completion, or as directed by Architect.
- K. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.

#### 1.12 SNOW REMOVAL

- A. The General trades contractor shall provide snow removal within the limits of the construction area.
- B. Maintain snow and ice conditions to provide safe site conditions and to prevent excess water, dirt, and debris from damaging new construction.

#### 1.13 FIELD OFFICES

- A. Construction:
  - 1. Structurally sound, secure, weather tight enclosures for office and storage spaces.
  - 2. Fire Extinguishers: Appropriate type fire extinguisher at each office and each storage area.
- B. Storage Areas and Sheds: Size to storage requirements for products of individual Sections, allow for access and orderly provision for maintenance and for inspection of products to requirements of Section 01 60 00.
- C. Preparation: Fill and grade sites for temporary structures sloped for drainage away from buildings.
- D. Removal: At completion of Work remove buildings, utility services and debris.
- E. Restore areas.

#### 1.14 BARRIERS

- A. The General Trades Contractor shall be responsible for the provision of temporary barriers at the site entry locations. Each contractor shall be responsible for protection at locations of trenching and excavations required to complete their work. The contractor shall be responsible for the provision and maintenance of temporary barriers.
- B. Provide barriers to prevent unauthorized entry to construction areas, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- C. The general trades contractor shall provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way and for public access to existing building.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
- E. Exterior barricades shall be a minimum of 6'-0" high portable chain link or opaque fabric fence, securely attached to posts at 5'-0" o.c. maximum.

#### 1.15 EXTERIOR ENCLOSURES

- A. The general trades contractor shall be responsible for proper enclosure of all openings.
- B. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

#### 1.16 SECURITY

- A. Security Program:
  - 1. Protect Work, existing premises and Owner's operations from theft, vandalism, and unauthorized entry.
- B. Entry Control:
  - 1. Restrict entrance of persons and vehicles into project site and existing facilities.
  - 2. Allow entrance only to authorized persons with proper identification.
  - 3. Owner will control entrance of persons and vehicles related to Owner's operations.

#### 1.17 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise from affecting Owner's operations. Should work requiring excessive noise be required schedule work to be completed with Owner.

#### 1.18 PEST CONTROL

- A. Provide methods, means, and facilities to prevent pests and insects from damaging the Work.

1.19 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.20 RODENT CONTROL

- A. Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

1.21 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities and materials prior to Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2 feet.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore permanent facilities used during construction to be specified condition.

END OF SECTION

SECTION 01 60 00  
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.

1.2 PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- C. Furnish interchangeable components from same manufacturer for components being replaced.
- D. All electrical work to conform to current national electric code requirements.
- E. All electrical products, components and packaged systems are to be approved and labeled by a nationally recognized testing agency such as Underwriters Laboratory (UL) or equal.
- F. The Contractor shall provide a third party certificate of inspection by independent inspection agency.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.

- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.
- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

#### 1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: products of one of manufacturers named and meeting specifications, substitutions allowed. Submit request for substitution for any manufacturer not named in accordance with the following article.
- C. Products Specified by Naming one manufacturer: Provide product from manufacturer listed. No substitutions permitted.

#### 1.6 PRODUCT SUBSTITUTION PROCEDURES

- A. Architect/Engineer will consider requests for Substitutions only within 30 days after date of Owner-Contractor Agreement.
- B. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that Contractor:
  - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
  - 2. Will provide same warranty for Substitution as for specified product.
  - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
  - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
  - 5. Will reimburse Owner and Architect/Engineer for review or redesign services associated with re-approval by authorities having jurisdiction.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.



- F. Substitution Submittal Procedure:
1. Submit two copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
  2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
  3. Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION



## SECTION 01 70 00

### EXECUTION AND CLOSEOUT REQUIREMENTS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Related requirements.
- B. Project conditions.
- C. Coordination.
- D. Patching materials.
- E. Examination.
- F. Preparation.
- G. Cutting and patching.
- H. Protection of installed work.
- I. Final cleaning.
- J. Closeout procedures.
- K. General requirements for maintenance service.
- L. Project record documents.
- M. Operation and maintenance data.
- N. Spare parts and maintenance products.
- O. Product warranties and product bonds.

##### 1.2 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Identification of work sequence; and salvaged and relocated materials.
- B. Section 01 31 00 – Project Management and Coordination: Submittals procedures.
- C. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.
- D. Section 01 50 00 - Temporary Facilities and Controls: Temporary interior partitions.
- E. Individual Product Specification Sections:
  - 1. Advance notification to other sections of openings required in work of those sections.
  - 2. Limitations on cutting structural members.

##### 2.4 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
  - 1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
- F. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
  - 1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.
- G. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

#### 1.4 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of temporary and new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate areas.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

### PART 2 PRODUCTS

#### 2.1 NOT USED.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.

- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or miss-fabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

### 3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

### 3.3 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

### 3.4 PROTECTION OF INSTALLED WORK

- A. The contractor shall protect their installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Prohibit traffic from landscaped areas.
- H. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

### 3.5 FINAL CLEANING

- A. The general trades contractor shall provide final cleaning. Employ experienced workers or professional cleaners for final cleaning.
- B. Execute final cleaning prior to final project assessment.
  - 1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.
- C. Use cleaning materials that are nonhazardous.

- D. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- E. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- F. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- G. Replace filters of operating equipment.
- H. Clean debris from roofs, gutters, downspouts, and drainage systems.
- I. Clean site; sweep paved areas, rake clean landscaped surfaces.
- J. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

### 3.6 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
  - 1. Provide copies to Architect/Engineer.
- B. Notify Architect when work is considered ready for Substantial Completion.
- C. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's review.
- D. Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Owner occupied areas.
- E. Notify Architect when work is considered finally complete.
- F. Complete items of work determined by Architect's final inspection.
- G. Submit final application for payment identifying total adjusted contract sum, previous payments and sum remaining due.

### 3.7 GENERAL REQUIREMENTS FOR MAINTENANCE SERVICE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.
- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

### 3.8 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
  - 1. Drawings
  - 2. Specifications
  - 3. Addenda
  - 4. Change Orders and other modifications to the Contract.
  - 5. Reviewed Shop Drawings, Product Data, and Samples.
  - 6. Manufacturer's instruction for assembly, installation, and adjust.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Product substitutions or alternates utilized.
  - 3. Changes made by addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
  - 1. Measured depths of foundations in relation to finish first floor datum.
  - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 4. Field changes of dimension and detail.
  - 5. Details not on original contract drawings
- G. Submit documents to Architect/Engineer with claim for final Application for Payment.

### 3.9 OPERATIONS AND MAINTENANCE DATA

- A. Submit one copy of data bound in 8-1/2 x 11 inch (A4) text pages, three ring binder with durable plastic cover.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
- C. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Drawings: Provide with reinforced punched binder tab. For drawings 11 x 17" or smaller bind in with text; fold larger drawings to size of text pages.
- E. Contents: Prepare Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
  - 1. Part 1: Directory, listing names, addresses and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
  - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
    - a. Significant design criteria.
    - b. List of equipment

- c. Parts list for each component.
    - d. Operating instructions
    - e. Maintenance instructions for equipment and systems.
    - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
  3. Part 3: Project documents and certificates, including the following:
    - a. Shop drawings and product data.
    - b. Air and water balance reports.
    - c. Certificates
    - d. Originals of warranties and bonds.
- F. MATERIALS AND FINISHES:
  1. Building Products, Applied Materials, and Finishes: include product data, with catalog number, size, composition, and color and texture designations.
  2. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
  3. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details for installation. Include recommendations for inspections, maintenance, and repair.
- G. Equipment and Systems
  1. Each item or system: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
  2. Panel Board Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
  3. Include color coded wiring diagrams as installed.
  4. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and special operating instructions.
  5. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
  6. Include servicing and lubrications schedule, and list of lubricants required.
  7. Include manufacturer's printed operation and maintenance instructions.
  8. Include sequence of operations by controls manufacturer.
  9. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
  10. Include control diagrams by controls manufacturer as installed.
  11. Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
  12. Include list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage
  13. Include test and balancing reports as specified in Section 01 40 00 and mechanical specifications.
- H. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- I. Submit completed volumes fifteen days prior to final inspection. Architect/Engineer will review. Revise content of document sets as required.
- J. Additional Requirements, As specified in individual product specification sections.



### 3.10 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.
- B. Deliver to project site and place in location as directed by Owner; obtain receipt prior to final payment.

### 3.11 PRODUCT WARRANTIES AND PRODUCT BONDS

- A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
- B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.
- C. Verify documents are in proper form, contain full information, and are notarized.
- D. Co-execute submittals when required.
- E. Submit prior to final Application for Payment.
- F. Time of Submittals:
  - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
  - 2. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.
  - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

END OF SECTION



SECTION 02 41 16  
STRUCTURE DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Selective demolition of built elements.
- B. Abandonment and removal of existing utilities and utility structures.

1.2 RELATED REQUIREMENTS

- A. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

1.3 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations 2013.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Fill Material: As specified in Section 31 23 23 - Fill.

PART 3 EXECUTION

3.1 SCOPE

- A. Remove paving and curbs as required to accomplish new work.
- B. Remove all other paving and curbs within site boundaries as directed.
- C. Break up concrete slabs on grade within site boundaries.
- D. Remove other items indicated, for salvage, relocation, recycling and burying.
- E. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 31 23 23.

3.2 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
  - 1. Obtain required permits.
  - 2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
  - 3. Provide, erect, and maintain temporary barriers and security devices.
  - 4. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
  - 5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
  - 6. Do not close or obstruct roadways or sidewalks without permit.
  - 7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
- B. Do not begin removal until receipt of notification to proceed from Owner.

- C. Protect existing structures and other elements that are not to be removed.
  - 1. Provide bracing and shoring.
  - 2. Prevent movement or settlement of adjacent structures.
  - 3. Stop work immediately if adjacent structures appear to be in danger.
- D. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- E. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- F. Perform demolition in a manner that maximizes salvage and recycling of materials.
  - 1. Dismantle existing construction and separate materials.
  - 2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.
- G. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

### 3.3 EXISTING UTILITIES

- A. Protect existing utilities to remain from damage.
- B. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- C. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- D. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- E. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.
- F. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

### 3.4 DEBRIS AND WASTE REMOVAL

- A. Remove debris and trash from site.
- B. Remove from site all materials not to be reused on site.
- C. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

DOCUMENT 03 11 19

INSULATING CONCRETE FORMING

PART 1 GENERAL

1.02 SUMMARY

- A. Section Includes:
  - 1. Comply with the requirements for Division 1.
  - 2. Furnish all labor, materials, tools and equipment to perform the complete erection/ installation of the Insulating Concrete Form System (ICF), installation of reinforcing steel, placement of concrete within formwork, and final cleanup.
  - 3. Adequate bracing and false work shall be provided.
- B. Products Installed But Not Supplied Under This Section:
  - 1. Sleeves
  - 2. Inserts
  - 3. Anchors
  - 4. Bolts
  - 5. Reinforcing Steel
  - 6. Concrete.
- C. Related Requirements:
  - 1. Section 03 30 00- Cast-In-Place Concrete
  - 2. Section 07 24 00- Exterior Insulation and Finish Systems

1.02 REFERENCES

- A. Abbreviations and Acronyms:
  - 1. EPS- Acronym for "Expanded Polystyrene" when referencing the insulating foam component of the Insulating Concrete Form System.
  - 2. ICF- Acronym for "Insulating (or Insulated) Concrete Form".
- B. Definitions:
  - 1. Form Alignment System- a form alignment & scaffold system designed exclusively for use with Insulating Concrete Forms.
  - 2. Trained Installer- An installation contractor, who has received instructional training in the installation of the specified Insulating Concrete Form System and is capable of providing written verification of his designation as such by the specified manufacturer of the system being installed.
  - 3. Technical Associate- A technical representative, usually a staff member of a Distribution Firm, who has received instructional training in the installation of Insulating Concrete Form system and is in the capacity of supervising an installation crew on site.
- C. Reference Standards:
  - 1. American Concrete Institute (ACI)
    - a. ACI 318 Building Code Requirements for Structural Concrete and Commentary
  - 2. American Society for Testing and Materials (ASTM)
    - a. ASTM C165: Standard Test Method for Measuring Compressive Properties of Thermal Insulations
    - b. ASTM C177: Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus

- c. ASTM C203: Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
  - d. ASTM C272: Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions
  - e. ASTM C303: Standard Test Method for Dimensions and Density of Preformed Block and Board-Type Thermal Insulation
  - f. ASTM C518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
  - g. ASTM C578: Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
  - h. ASTM D1621: Standard Test Method for Compressive Properties Of Rigid Cellular Plastics
  - i. ASTM D1622: Standard Test Method for Apparent Density of Rigid Cellular Plastics
  - j. ASTM D2126: Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
  - k. ASTM D2863: Standard Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index)
  - l. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials
  - m. ASTM E90: Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
  - n. ASTM E96: Standard Test Methods for Water Vapor Transmission of Materials
  - o. ASTM E336: Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings.
  - p. ASTM E2634: Standard Specification for Flat Wall Insulating Concrete Form (ICF) Systems.
3. International Code Council Evaluation Service (ICC-ES)
- a. AC12: Acceptance Criteria for Foam Plastic Insulation
  - b. AC15: Concrete Floor, Roof and Wall Systems and Concrete Masonry Wall Systems
  - c. AC 353: Stay-in-place, Foam Plastic Insulating Concrete Form (ICF) Systems for Solid Concrete
4. National Fire Protection Association (NFPA)
- a. NFPA 259: Standard Test Method for Potential Heat of Building Materials.
  - b. NFPA 268: Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source.
  - c. NFPA 285: Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components
  - d. NFPA 286: Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth
5. Southwest Research Institute (SwRI)
- a. SwRI 99-02: Crawl Space Insulation Evaluation Protocol
6. Uniform Building Code (UBC)
- a. UBC 26-3: Room Fire Test Standard for Interior Foam Plastic Systems
  - b. UBC 26-4: Method of Test for the Evaluation of Flammability Characteristics of Exterior, Non-load-bearing Wall Panel Assemblies Using Foam Plastic Insulation
  - c. UBC 26-9: Method of Test for the Evaluation of Flammability Characteristics of Exterior, Non-load-bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multi-Story Test Apparatus
7. Underwriters Laboratories Inc. (UL)
- a. UL 263: Fire Tests of Building Construction and Materials.

### 1.03 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Meetings:
  - 1. Ensure those materials listed under Sub-Sections 2.01 through 2.03 are provided prior to commencement of work under this Section.
  - 2. Provide list of known special requirements for interface of materials provided in this section as such may pertain to co-ordination with mechanical, electrical, plumbing, interior and exterior finish sub trades prior to commencement of work.

### 1.04 SUBMITTALS

- B. Contractor shall have a minimum 3 years of experience in commercial ICF construction or;
  - 1. A qualified masonry or traditional concrete forming contractor with minimum 5 years experience in commercial construction applications.
- A. Test and Evaluation Reports:
  - 1. Technical Associate for form system shall submit laboratory tests or data that validate product compliance with performance criteria specified prior to commencement of work under this Section (See Section 2.03 B Regulatory Requirements).
  - 2. Submit copy of valid product evaluation report, demonstrating compliance with this specification and applicable codes for site condition. (See Section 2.03 B Regulatory Requirements).
- B. Manufacturer's Instructions:
  - 1. Submit copy of manufacturer's product installation manual.
- C. Form Alignment System Engineering:
  - 1. For wall heights above 12 feet (3.6m) of unsupported wall height, the contractor shall provide scaffold engineering for support of the Form Alignment System for support of the form system and the Form Alignment System assemblies during construction.
- A. Warranty Documentation:
  - 1. Product warranty documentation specified under Section 1.11 shall be supplied to contractor (for subsequent provision to building owner) upon completion of building construction.

### 1.06 MAINTENANCE MATERIAL SUBMITTALS

- A. Maintenance:
  - 1. Provide copy of pertinent documentation as relates to instruction on post repair, renovation, modification or service work with respect to the form system once occupancy commences.

### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Acceptance Requirements:
  - 1. Deliver products in original factory packaging, bearing identification of product, manufacturer and batch/lot number.
  - 2. Only form panels and insert webs as may be required for floor interfaces or specialized construction on site are to be shipped unassembled but in labeled packages for traceability.
- B. Storage and Handling Requirements:

1. Handle and store products in location to prevent damaging and soiling.
2. Maintain form materials and accessories in original packaging (or provide similar protection to unpackaged form materials -should on-site storage prior to installation extend beyond 3 months).
3. Form units and related form installation materials and equipment to be stored flat until time of use.

#### 1.08 SITE CONDITIONS

##### A. Ambient Conditions:

1. Use appropriate measures for protection and supplementary heating when required to ensure proper curing conditions in accordance with manufacturer's recommendations if installation is carried out during periods of weather where temperatures are below minimum specified by National Concrete Masonry Association (NCMA) for cold weather concrete.

### PART 2 PRODUCTS

#### 2.01 MANUFACTURERS

##### A. Manufacturer List:

1. Provide insulating concrete form system materials from one of the following Manufacturers assuring that system selected complies in all respects with performance requirements of Section 2.03.
  - a. Nudura Corporation ([www.nudrua.com](http://www.nudrua.com))
  - b. Foxx Blocks ([www.arxx.net](http://www.arxx.net))
  - c. Smart Block ([www.smartblock.com](http://www.smartblock.com))
  - d. Quad Lock ([www.quadlock.com](http://www.quadlock.com))

##### B. Substitution Limitations:

1. Forming System shall carry an active listing/classification for fire resistance rating of the completed wall assembly as endorsed by Underwriters Laboratories® UL per testing to the ANSI/UL-263 Standard.
2. Form System supplied shall provide full height webs fastening strips in contact throughout height of the wall assembly at 8-inches (203 mm) o/c placement within system to assure minimum settlement during concrete placement and maximum sleeve insertion diameter possible between webs.
3. Form system shall provide dovetail flutes or similar method, to both sides of its interior cavity to enable structural bonding of concrete to foam once concrete is cured.

#### 2.02 INSULATING CONCRETE FORMING SYSTEM (ICF)

- A. The Manufacturer's authorized distributor shall have available local to the region, technical sales staff that can be contacted and available as may be required to provide timely on site problem resolution as installation or product supply issues may arise.
- B. Where local distribution cannot service the requirements of the contract scope and product is to be supplied directly by the manufacturer, the manufacturer shall be capable to provide on-site technical assistance within 48 hours of receiving request.
- C. Where product is supplied direct, technical assistance supplied by the manufacturer shall include the provision of a technical consultant direct from or contracted by the manufacturer to coordinate form system installation, crew organization and set-up.



## 2.03 DESCRIPTION

### A. General:

1. Insulating concrete form system shall consist of two (2) flame resistant panels of expanded polystyrene (EPS) connected by either high-density polypropylene hinged pin foldable webs or EPS embedded polystyrene fastening strips interconnected with slide in format - high density polypropylene web connectors, or similar approved by the Architect. EPS foam panels shall feature continuous vertical dove tail grooves on interior panel surfaces, or equal method, to provide integral surface bonding to concrete core once filled and concrete is cured. Dove tail grooves shall also facilitate structural linkage with end cap forms placed into the form cavity where required as part of the overall architectural design layout.
2. All web fastening strips to run full height of form and be fitted top and bottom with reversible fitting, interlocking mechanisms to enable positive vertical interlocking of forms with each other. Wall system webs to provide minimum 1 ½" (38mm) wide fastening strips at 8-inches (203mm) on center approx 5/8-inch (15.9 mm) below insulation face to facilitate finish fastening of both interior and exterior finishes.
3. Insulating concrete form system shall be capable of forming ALL of the required concrete core thicknesses as required for various locations throughout project scope with standard form line-up.
4. Insulating concrete form system shall provide a minimum insulation panel thickness of 2 5/8-inches (66.7mm) throughout forms and panels forming the form system product inventory (with exception of variance required for brick ledge and tapered top forms).
5. EPS foam panels shall be molded with 1-inch (25mm) wide by ½-inch (12.7mm) high/deep alternating male/female reversible projection/socket interlocks positioned in pairs along both top and bottom edges of all panels or equal interlocking mechanism approved by the Architect.
6. Wall system shall be capable of providing horizontal and vertical lock positioning of steel within form cavity to conform to all reinforcing requirements of ACI 318.

### B. Regulatory Requirements:

1. Form system manufacturer shall provide on request, written documentation verifying active compliance to ICC-ES Acceptance Criteria AC-353 "Stay-in-place, Foam Plastic Insulating Concrete Form (ICF) Systems for Solid Concrete".
2. As alternate to above, Form system manufacturer shall provide IAS Accredited 3<sup>rd</sup> Party Certification confirming compliance to ASTM E 2634 – "Standard Specification for Flat Wall Insulating Concrete Forms".
3. Documentation as provided per Section 2.03.1, B.1 or 2 above: shall verify compliance to the following regulatory documents and standards:
  - a) Form system structural, and general performance assessment of properties of EPS foam and polypropylene materials assessment in accordance with the following standards:
    1. ASTM C578: Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation (which includes results for);
    2. ASTM C165: Standard Test Method for Measuring Compressive Properties of Thermal Insulation.
    3. ASTM C177: Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
    4. ASTM C203: Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation.
    5. ASTM C272: Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions.

6. ASTM C303: Standard Test Method for Dimensions and Density of Preformed Block and Board-Type Thermal Insulation
7. ASTM C518: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
8. ASTM D1621: Standard Test Method for Compressive Properties Of Rigid Cellular Plastics
9. ASTM D1622: Standard Test Method for Apparent Density of Rigid Cellular Plastics
10. ASTM D2126: Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
11. ASTM D2863: Standard Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index)
12. ASTM E96: Standard Test Methods for Water Vapor Transmission of Materials
13. Finish attachment testing in accordance with:
  - a. ASTM D1761: Standard Test Methods for Mechanical Fasteners in Wood (Modified for Polypropylene Web assessment)
14. Surface Burning, Flash Ignition and Self Ignition Temperature Characteristics assessment of both plastic web and EPS form materials in accordance with:
  - a. ASTM D635: Standard Test Method for Rate of Burning and/or Extent and of Burning of Plastics in a Horizontal Position
  - b. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials
  - c. ASTM D1929: Standard Test Method for Determining Ignition Temperature of Plastics
15. Verification of performance and compliance of finishes for provision thermal barrier protection to foam plastic.
  - a. NFPA 286: Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth or, UBC 26-3: Room Fire Test Standard for Interior Foam Plastic Systems
16. Crawl Space Installation Evaluation in accordance with:
  - a. SwRI 99-02: Crawl Space Insulation Evaluation Protocol
17. Fire Resistance Rated Construction assessment in accordance with:
  - a. UL 263: Fire Tests of Building Construction and Materials (See also Sections 2.01 and 2.04.A. 4 through 9)
18. Non-Combustible Construction assessment (i.e. approved non-combustible material finish requirement documentation) in accordance with:
  - a. NFPA 259: Standard Test Method for Potential Heat of Building Materials
  - b. NFPA 268: Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source.
19. Assessment of non-combustible finishes verifying exterior protection of foam plastic insulation in accordance with one of the following standards:
  - a. NFPA 285: Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.
  - b. UBC 26-4: Method of Test for the Evaluation of Flammability Characteristics of Exterior, Non-load-bearing Wall Panel Assemblies Using Foam Plastic Insulation or,
  - c. UBC 26-9: Method of Test for the Evaluation of Flammability Characteristics of Exterior, Non-load-bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multi-Story Test Apparatus
20. Additional Testing and engineering documentation to verify qualification of EPS foam panels as a Vapor Retarder in conjunction with testing to:
  - a. ASTM E-96 Standard Test Methods for Water Vapor Transmission of Materials

21. Testing and engineering documentation to verify qualification of fully assembled wall system as an air barrier element in accordance with:
  - a. ASTM E1677 Standard Specification for an Air Retarder (AR) Material or System for Low-Rise Framed Building Walls
22. Testing and engineering documentation to verify qualification of the form system as meets the minimum STC performance requirements of 50 in accordance with:
  - a. ASTM E 90: Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements, or;
  - b. ASTM E 336: Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings.

## 2.04 PERFORMANCE / DESIGN CRITERIA

### A. Capacities:

1. Selected system in conjunction with concrete and designated exterior and interior finishes shall provide minimum insulation level of R 23.59 (hr.ft<sup>2</sup>.F/Btu) or (RSI 4.158 (m<sup>2</sup>.K/W) -U Factor 0.2405 W/m<sup>2</sup>.K) across full line of form unit cavity widths.
2. EPS foam panels forming part of wall system shall provide maximum vapor permeation rate of 0.78 Perm-inch.(36 ng/Pa.s.m<sup>2</sup>) based on 2 5/8-inches (66.7 mm) single thickness of foam on interior surface of concrete core.
3. Wall reinforcement shall consist of minimum No. 4 Bar 60 ksi (grade 400 metric) yield strength installed at 32-inches o/c vertically and 18-inches o/c horizontally.
4. Concrete shall be minimum 3000 psi (20MPa) compressive strength at 28 days and shall be a minimum density of 145 lbs +/- 5lbs /ft<sup>3</sup> (2,323 kg/m<sup>3</sup> +/- 80 kg/m<sup>3</sup>) using regular siliceous concrete aggregate.

## 2.05 MATERIALS

### A. Insulating Concrete Forming:

1. Provide Insulating Concrete Forming as listed in the table at the end of this section as required for proper execution of the work.

### B. Concrete:

1. Concrete supplied under this section shall be of strength as specified (measured at 28 days). Maximum aggregate size to be ½-inch (12.7mm) aggregate for 4 & 6-inch (102 & 152mm) cavity forms and, ¾-inch (19mm) aggregate for 8-inch (203 mm) cavity forms and larger.

### C. Reinforcing Steel:

1. Reinforcing steel shall be as specified in Section 03 30 00 and shall be supplied under that Section for placement by the form system's installer.

### D. Parging:

1. EIFS supplied and installed under Section 07 24 00 (Exterior Insulation and Finish System).

## 2.06 ACCESSORIES

### A. Form Alignment System

1. The Trained Installer shall furnish and utilize the Wall Access and Form Alignment System (as supplied by the Manufacturer or approved equivalent) to facilitate construction of the wall assembly, and to provide adjustment for ensuring plumbness and straightness of the wall system during construction, just prior to concrete placement and immediately after concrete placement while form system is still adjustable to final finished position.

2. Form Alignment System shall be OSHA compliant. Manufacturer's technical associate shall supply engineering documentation pertaining to the "base" Form Alignment System components to verify compliance upon request.
3. As specified under Section 1.05 Submittals, for wall heights above 12-feet (3.6 m), the contractor shall provide scaffold engineering for Form Alignment System support for support of the form system during construction.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verification of Conditions:
  1. Inspect all areas to establish extent of work and verify site access conditions.
  2. Verify that site conditions are ready to receive work of this section.
- B. Evaluation and Assessment:
  1. Examine footings installed and are within +/- ¼-inch (6mm) of level and that step footing increments are 18-inches (457 mm) in height.
  2. Where partial or half course is intended for starting course elevation, ensure step footing increment is equal to cut form unit less ½-inch (13 mm).
  3. Ensure reinforcing steel dowels are in place at specified centers along footing lengths.
  4. Ensure reinforcement steel dowels have OSHA compliant protection installed until formwork is erected above dowel level.

### 3.02 PREPARATION

- A. Surface Preparation:
  1. Clean all debris from top of footings prior to commencement of insulating concrete form system installation.
  2. Sequence installation of concrete formwork with related work specified in other sections to ensure that wall assemblies, including window and door accessories, trim, service penetrations, transition changes, and mechanical service are protected against damage from effects of weather, corrosion, and adjacent construction activity.

### 3.03 ERECTION / INSTALLATION / APPLICATION

- A. Installation Procedures:
  1. Installation of forms to be in strict accordance with manufacturer's product installation manual.
  2. The trained installer shall ensure all manufacturer's procedures for the following work are employed on site (as outlined in the manufacturer's product Installation manual) Additional to all required procedures being followed, the trained Installer shall specifically assure cross checks with respect to layout, leveling and vertical alignment are executed as noted below in each section:
    - a) First Course Placement – perform cross checks for accuracy of plan layout to survey pins, marks or grid lines as set by the contractor.
    - b) Horizontal Reinforcement Placement – assure reinforcement diameter, grade and positioning is accurate to engineering specifications on structural drawings and installed in correct axis of wall for each course placed.
    - c) Successive Course Placement – assure system is accurately leveled subsequent to 2<sup>nd</sup> course placement.
    - d) Form Alignment System /Installation – assure Form Alignment System is regularly checked for crew safety, anchorage to form system as specified, vertical alignment checks at both pre-placement of concrete as well as following concrete placement.

- e) Vertical Reinforcement Placement- assure reinforcement diameter, grade and positioning is accurate to engineering specifications on structural drawings and installed in correct axis of wall, prior to placement of concrete.
- f) Pre-Concrete Placement Inspection- trained installer shall assure string lines are placed at top of all pours and wall system aligned for placement, cross check and assure that all required service penetration sleeves, embed plates, anchor bolts, fittings, beam pocket preparations are in place prior to commencement of concrete placement.
- g) Concrete Placement- trained installer shall assure concrete slump, strength and aggregate size are as specified per Section 2.04 of this Section. Trained installer to assure truck delivery timed for rate of placement and that placement does not exceed ACI recommended practices. Trained installer shall also assure that concrete during lift placement is mechanically and internally vibrated per ACI Standards to assure full monolithic concrete placement for all areas of formwork.
- h) Form Alignment System and Scaffold Access Assembly, adjustment & removal. Trained installer shall assure entire wall lengths aligned to vertical plumb by string line and screeded to horizontal level as required for finished wall height prior to concrete set. Subsequent to initial concrete cure, contractor shall assure that scaffold access and form alignment system remains in place until removal will not cause displacement of forms and concrete.

B. Interface with Other Work:

- 1. Service penetrations (electrical service conduits, water service pipes, air supply and exhaust ducts etc.) shall be installed at the required locations as indicated by the appropriate trade.
- 2. Service penetrations exceeding 16" x 16" (400 mm x 400 mm) in area shall be reinforced per engineer specifications.
- 3. Prior to concrete placement, install service penetration sleeves at designated locations to create voids for service placement at later date.

3.04 CLEANING

A. Waste Management

- 1. Clean up and properly dispose of all debris remaining on job site related to the installation of the insulated concrete forms.

3.05 PROTECTION

- A. Assure final finishes are installed over form product or provide temporary coverage of installation to reduce EPS foam surface exposure to ultra violet light should final finish application be delayed longer than 18 months after form product installation.

END OF SECTION



SECTION 03 30 00  
CAST IN PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
  - 1. Sidewalks.
  - 2. Foundations and slab on grade.
  - 3. Standard, exposed polished aggregate, and colored decorative concrete.

1.2 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
  - 1. Indicate amounts of mixing water to be withheld for later addition at Project site.
- C. Samples of aggregate colors and size.
- D. Samples for Color Selection: Manufacturer's color charts.
- E. Mock-Up Panels: Provide 2' X 2' sample of exposed aggregate or colored concrete finished product. Provide up to three panels of differing colors as directed by Architect. Mock-up shall demonstrate color, size and quantity of each aggregate color of finished concrete.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
  - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- D. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
  - 1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5.
  - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

## PART 2 - PRODUCTS

### 2.1 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
  - 1. Plywood, metal, or other approved panel materials.
  - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
    - a. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed where concrete is exposed to view.
    - b. Structural 1, B-B or better; mill oiled and edge sealed.
    - c. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
  - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- D. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
  - 1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.



## 2.2 STEEL REINFORCEMENT

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
- B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- C. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.

## 2.3 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
  - 1. For concrete surfaces exposed to view where legs of wire bar support contacts forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

## 2.4 COLOR MATERIALS

- A. Powdered mix or liquid colorant as described below.
- B. Integral Concrete Colorant: ASTM C 979, factory-measured powdered mix in self-dissolving packaging, consisting of non-fading finely-ground synthetic mineral-oxide coloring pigments and water reducing wetting agent.
  - 1. Product: Butterfield Color Uni-Mix Integral Colorant or equal.
  - 2. Colors: As selected by Architect from full range of class colors.
- C. Integral Concrete Liquid Colorant: ASTM C 979, admixture for integrally coloring concrete, consisting of non-fading synthetic mineral-oxides coloring pigments suspended in a pH adjusted water-based solution, dispensed at the batch plant, or premeasured in pails for job-site addition.
  - 1. Product: Butterfield Color Uni-Mix Liquid Colorant or equal.
  - 2. Colors: As selected by Architect from full range of class colors.
- D. Release Agent: Colored dry shake bond breaker formulation that facilitates release of stamp mats and texture rollers from colored concrete.
  - 1. Product: Stampcrete Colored Powder Release or equal.

## 2.5 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
  - 1. Portland Cement: ASTM C 150, Type I, gray or white, dependent upon finished color of concrete. Supplement with the following:
    - a. Fly Ash: ASTM C 618, Class F.
- B. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.
  - 1. Maximum Coarse-Aggregate Size: as indicated for concrete mix design.
  - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C 94/C 94M and potable.

## 2.6 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.

## 2.7 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.

## 2.8 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751 non-bituminous cellulosic fiber.
- B. Semi-rigid Joint Filler: Two-component, semi-rigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 per ASTM D 2240.
- C. Exposed aggregate polished concrete divider strips: Provide ¼ inch thick exposed top strip brass, concealed bottom strip with anchoring features. Provide divider strips maximum spacing of 10 feet in each direction in exposed aggregate polished concrete floor.
  - 1. Divider Joint Strip Height: Provide allowance for grinding and polishing.
- D. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redisersal, acrylic emulsion or styrene butadiene.
- E. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Types I and II, non-load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

## 2.9 CONCRETE MIXTURES, GENERAL

### A. Cementitious Materials:

1. Fly Ash: 25 percent.
2. Combined Fly Ash and Pozzolan: 25 percent.
3. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 50 percent Portland cement minimum, with fly ash or Pozzolan not exceeding 25 percent.

### B. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement.

### C. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing, high-range water-reducing, or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.
4. Use corrosion-inhibiting admixture in concrete mixtures where indicated.

## 2.10 CONCRETE MIXTURES FOR BUILDING ELEMENTS

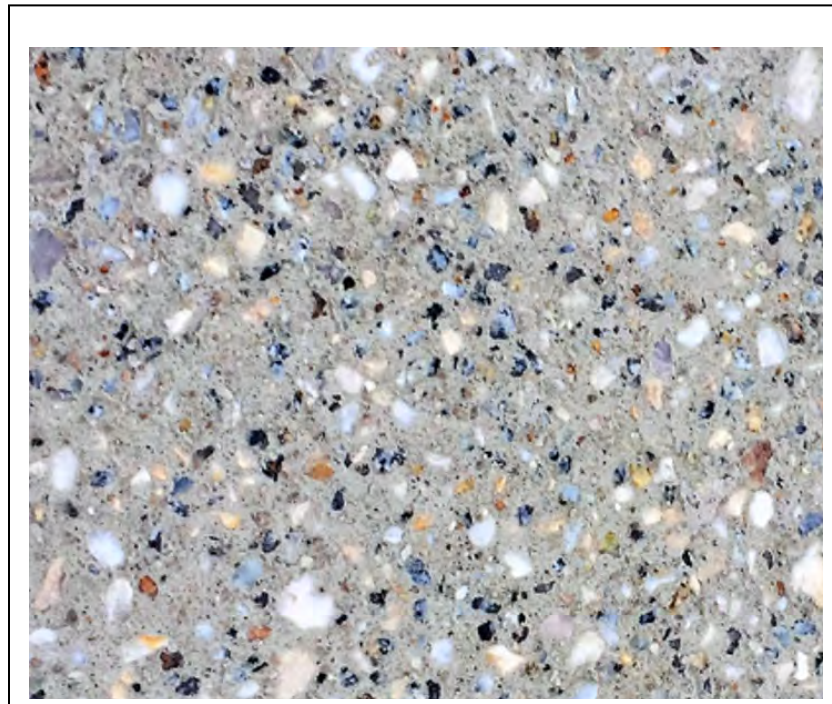
### A. Footings: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 3000 psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.50.
3. Slump Limit: 4 inches, plus or minus 1 inch.
4. Air Content: 5.5 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch nominal maximum aggregate size.
5. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch nominal maximum aggregate size.

### B. Foundation: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 3000 psi at 28 days.
2. Slump Limit: 4 inches, plus or minus 1 inch.

3. Air Content: 5.5 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch nominal maximum aggregate size.
  4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch nominal maximum aggregate size.
- C. Sidewalks and exterior Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 4500 psi at 28 days.
  2. Slump Limit: 4 inches, plus or minus 1 inch.
  3. Air Content: 6 Insert number percent, plus or minus 1.5 percent at point of delivery for 1-inch nominal maximum aggregate size.
  4. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent. Insert water-cementitious materials ratio here if slab-on-grade is subject to special exposure conditions or injurious sulfate exposure.
- D. Foundation Walls With Insulated Concrete Forms:
1. Concrete: Minimum Compressive Strength: 3000 psi (20.7 MPa) at 28 days. Recommended maximum aggregate size to be ½-inch (12.7mm) aggregate for 4 & 6-inch (102 & 152mm) cavity forms and, ¾-inch (19mm) aggregate for 8-inch (203 mm) cavity forms and higher.
  2. Recommended concrete slump is 4 to 6-inches +/- 1-inch (102 to 152mm +/- 25mm).
  3. Where required by engineer of record, recommended slump specification shall be attained through addition of super plasticizer/mid-range water reducing agents to achieve design mix strength and concrete flow-ability.
- E. Interior Slabs-On-Grade Exposed Aggregate Polished Concrete: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 3000 psi at 28 days.
  2. Minimum Cementitious Materials Content: 520 lb/cu. yd.. Gray cement.
  3. Slump Limit: 4 inches, plus or minus 1 inch.
  4. Air Content: 6 Insert number percent, plus or minus 1.5 percent at point of delivery for 1/2-inch nominal maximum aggregate size.
  5. Aggregate colors: Provide aggregate color and ratio to match image below.



6. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent. Insert water-cementitious materials ratio here if slab-on-grade is subject to special exposure conditions or injurious sulfate exposure.
7. Conform to ACI 310.1-20. Class D aggregate exposure. Level 2 Honed Surface polish.

#### 2.11 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

#### 2.12 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
  1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

### PART 3 - EXECUTION

#### 3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
  - 1. Class A, 1/8 inch for smooth-formed finished surfaces.
  - 2. Class B, 1/4 inch for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
  - 1. Install keyways, reglets, recesses, and the like, for easy removal.
  - 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Chamfer exterior corners and edges of permanently exposed concrete where indicated.
- H. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- I. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- J. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

### 3.2 REMOVING AND REUSING FORMS

- A. General: Formwork that do not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.
  - 1. Leave formwork for elements that supports weight of concrete in place until concrete has achieved its 28-day design compressive strength.
  - 2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.

- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Professional.

### 3.3 SHORES AND RESHORES

- A. Comply with ACI 318 and ACI 301 for design, installation, and removal of shoring and re-shoring.
- B. Plan sequence of removal of shores and re-shore to avoid damage to concrete. Locate and provide adequate re-shoring to support construction without excessive stress or deflection.

### 3.4 VAPOR RETARDERS

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.
  - 1. Lap joints 6 inches and seal with manufacturer's recommended tape.

### 3.5 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
  - 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

### 3.6 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Professional.
  - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of slabs.

2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.
  3. Locate joints for slabs in the middle third of spans.
  4. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
  2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Division 07 Section "Joint Sealants," are indicated.
  3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

### 3.7 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Professional.
1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
  2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.



3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- D. Deposit and consolidate concrete for slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  2. Maintain reinforcement in position on chairs during concrete placement.
  3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  4. Slope surfaces uniformly to drains where required.
  5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleed water appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- E. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
  2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- F. Hot-Weather Placement: Comply with ACI 301 and as follows:
1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

### 3.8 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
1. Apply to concrete surfaces exposed to public view, or to be covered with a coating or covering material applied directly to concrete.

### 3.9 FINISHING SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces except for polished concrete application.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Re-straighten, cut down high spots, and fill low spots. Repeat float passes and re-straightening until surface is left with a uniform, smooth, granular texture.
1. Apply float finish to surfaces to receive trowel finish.
- C. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and re-straighten until surface is free of trowel marks and uniform in texture and appearance.
1. Apply a trowel finish to surfaces exposed to view.
  2. Finish and measure surface so gap at any point between concrete surface and an unlevelled, freestanding, 10-ft.- long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4 inch.
- D. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.
1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Professional before application.
  2. Provide smooth finish to exposed sides of stairs.
- E. Polished Finish: Provide polished finish in multi-step process to achieve finished product to match mock-up approved during submittal process.
1. Provide course grinding to remove pits, blemishes, stains and light coatings.
  2. Complete specified aggregate exposure and sheen through fine grinding process.
  3. Provide internal impregnating sealer during polishing process.
- F. Colored Concrete Finish: Provide colored concrete in steel trowel finish with dry shake release agent.

1. Provide integral concrete coloring approved during submittal process.
2. Provide steel trowel finish.
3. Apply dry shake release agent of color approved during submittal and mock-up process.

### 3.10 DRY-SHAKE COLOR HARDENERS

- A. Apply dry-shake color hardener at rate recommended by manufacturer and approved mock-up according to manufacturer's instructions.
  1. After initial floating, uniformly broadcast approximately two-thirds of dry-shake color hardener to concrete surface, allow to absorb moisture, and embed by floating. Allow excess bleed water to dissipate prior to applying dry-shake color hardener.
  2. Apply balance of dry-shake color hardener at right angles to first application and embed by floating.
- B. Do not add water to concrete surfaces.
- C. Uniformly broadcast pigmented powder release agent to concrete surfaces at rate recommended by manufacturer and according to manufacturer's instructions.

### 3.11 STAMPING

- A. Stamp concrete surfaces according to manufacturer's instructions.
- B. Mat Stamping: While concrete is plastic, accurately align stamp mats in sequence and uniformly press into concrete to produce imprint pattern, texture, and depth of imprint, according to manufacturer's instructions. Remove stamps from concrete immediately.
- C. Stamp edges and surfaces unable to be imprinted with stamp mat with flexible stamping mats.
- D. Remove unembedded pigmented powder release agent after interval recommended by manufacturer and according to manufacturer's instructions. Pressure wash surfaces according to manufacturer's instructions without damaging decorative concrete.

### 3.12 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

### 3.13 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

- B. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- C. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
  - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
  - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

### 3.14 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
  - 1. Defer joint filling until concrete has aged at least one month(s). Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semi-rigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

### 3.15 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Professional. Remove and replace concrete that cannot be repaired and patched to Professional's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part Portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
  - 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes

and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
  3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Professional.
- D. Repairing Unformed Surfaces: Test unformed surfaces for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, pop-outs, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
  2. After concrete has cured at least 14 days, correct high areas by grinding.
  3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
  4. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
  5. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Professional's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Professional's approval.
- 3.16 FIELD QUALITY CONTROL
- A. Testing and Inspecting: Comply with Section 01 40 00 Quality Control Testing Services.
  - B. Inspections:

1. Steel reinforcement placement.
  2. Headed bolts and studs.
  3. Verification of use of required design mixture.
  4. Concrete placement, including conveying and depositing.
  5. Curing procedures and maintenance of curing temperature.
  6. Verification of concrete strength before removal of shores and forms from slabs.
- C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain at least one composite sample for each 50 cu. yd. or fraction thereof of each concrete mixture placed each day.
    - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
  3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
  5. Compression Test Specimens: ASTM C 31/C 31M.
    - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
    - b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
  6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
    - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
    - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
  7. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.

8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
    - a. If the structural members are accepted on the basis of tests other than the original cylinder tests, the Contractor shall compensate the owner one hundred (\$100) dollars per cubic yard for each one hundred pounds per square inch below the specified strength. The original laboratory-cured 28 day test cylinder results only shall be used to determine the difference between specified and furnished strengths.
  9. Test results shall be reported in writing to Professional, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
  10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Professional but will not be used as sole basis for approval or rejection of concrete.
  11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Professional. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Professional.
  12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
  13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- D. Measure slab flatness and levelness according to ASTM E 1155 within 24 hours of finishing.

END OF SECTION





DOCUMENT 04 72 00  
CAST STONE MASONRY

PART 1 GENERAL

1.1 SECTION INCLUDES:

- A. Cast Stone shown on architectural drawings and as described in this specification.

1.2 RELATED SECTIONS

- A. Section – 01 60 00 – Product Requirements.
- B. Section 07 25 00 – Weather Barriers.
- C. Section – 07 90 05 – Joint Sealers.

1.3 REFERENCES

- A. ASTM C 33 – Standard Specification for Concrete Aggregates.
- B. ASTM C 150 - Standard Specification for Portland Cement.
- C. ASTM C 595 – Blended Cement
- D. ASTM C 1157 – Hydraulic Cement
- E. ASTM C 173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volume Method.
- F. ASTM C 231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
- G. ASTM C 260 - Standard Specification for Air-Entrained Admixtures for Concrete.
- H. ASTM C 270 - Standard Specification for Mortar for Unit Masonry.
- I. ASTM C 426 – Standard Test Method for Linear Shrinkage of Concrete Masonry Units.
- J. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete.
- K. ASTM C 618 – Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
- L. ASTM C 666 – Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing.
- M. ASTM C 979 - Standard Specification for Coloring Pigments for Integrally Pigmented Concrete.
- N. ASTM C 989 – Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete.
- O. ASTM C 1116 – Standard Specification for Fiber Reinforced Concrete and Shotcrete.
- P. ASTM C 1194 - Standard Test Method for Compressive Strength of Architectural Cast Stone.
- Q. ASTM C 1195 - Standard Test Method for Absorption of Architectural Cast Stone.
- R. ASTM C 1364 - Standard Specification for Architectural Cast Stone.
- S. ASTM D 2244 – Standard Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.

- T. Cast Stone Institute Technical Manual (Current Edition).

#### 1.4 DEFINITIONS

- A. Cast Stone - a refined architectural concrete building unit manufactured to simulate natural cut stone, used in Division 4 masonry applications.
- B. Dry Cast – manufactured from zero slump concrete.
  - 1. Vibrant Dry Tamp (VDT) casting method: Vibratory ramming of earth moist, zero-slump concrete against a rigid mold until it is densely compacted.
  - 2. Machine casting method: Manufactured from earth moist, zero-slump concrete compacted by machinery using vibration and pressure against a mold until it becomes densely consolidated.
- C. Wet Cast – manufactured from measurable slump concrete.
  - 1. Wet casting method: manufactured from measurable slump concrete and vibrated into a mold until it becomes densely consolidated.

#### 1.5 SUBMITTAL PROCEDURES

- A. Comply with Section 01 60 00 – Product Requirements.
- B. Samples: Submit 12 inch X 12 inch color board with pieces of the Cast Stone that are representative of the general range of finish and color proposed to be furnished for the project.
- C. Test results: Submit manufacturers test results conforming to specified requirements of Cast Stone previously made by the manufacturer.
- D. Shop Drawings: Submit manufacturers shop drawings including profiles, cross-sections, reinforcement, exposed faces, arrangement of joints, anchoring methods, anchors, annotation of stone types and their location.
- E. Certification: Submit valid Cast Stone Institute Plant Certification.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
  - 1. Cast Stone shall be produced in a plant certified by the Cast Stone Institute.
  - 2. Manufacturer shall have sufficient plant facilities to produce the shapes, quantities and size of Cast Stone required in accordance with the project schedule.
- B. Standards: Comply with the requirements of the Cast Stone Institute Technical Manual and the project specifications. Where a conflict may occur, the contract documents shall prevail.

### PART 2 PRODUCTS - NOT USED

#### 2.1 ARCHITECTURAL CAST STONE

- A. Comply with ASTM C 1364.
- B. Physical properties: Provide the following:
  - 1. Compressive Strength - ASTM C 1194: 6,500 psi minimum for products at 28 days.
  - 2. Absorption - ASTM C 1195: 6% maximum by the cold water method.
  - 3. Air Content – ASTM C 173 or C 231, for wet cast product shall be 4-8% for units exposed to freeze-thaw environments. Air entrainment is not required for VDT products.
  - 4. Freeze-thaw – ASTM C 1364: The CPWL shall be less than 5% after 300 cycles of freezing and thawing.
  - 5. Linear Shrinkage – ASTM C 426: Shrinkage shall not exceed 0.065%.

## 2.2 Raw Materials

- A. Portland cement – Type I or Type III, white and/or grey, ASTM C 150.
- B. Coarse aggregates - Granite, quartz or limestone, ASTM C 33, except for gradation, and are optional for the VDT casting method.
- C. Fine aggregates - Manufactured or natural sands, ASTM C 33, except for gradation.
- D. Colors: Inorganic iron oxide pigments, ASTM C 979 except that carbon black pigments shall not be used.
- E. Admixtures- Comply with the following:
  - 1. ASTM C 260 for air-entraining admixtures.
  - 2. ASTM C 494/C 495M Types A - G for water reducing, retarding, accelerating and high range admixtures.
  - 3. Other admixtures: Integral water repellents and other chemicals, for which no ASTM Standard exists, shall be previously established as suitable for use in concrete by proven field performance or through laboratory testing.
  - 4. ASTM C 618 mineral admixtures of dark and variable colors shall not be used in surfaces intended to be exposed to view.
  - 5. ASTM C 989 granulated blast furnace slag may be used to improve physical properties. Tests are required to verify these features.
- F. Water – Potable.
- G. All anchors, dowels and other anchoring devices and shims as recommended by stone manufacturer, shall be standard building stone anchors commercially available in a non-corrosive material such as zinc plated, galvanized steel, brass, or stainless steel Type 302 or 304.

## 2.3 COLOR AND FINISH

- A. Prestige Stone Products, Buck Country, Weatherledge..
- B. All surfaces intended to be exposed to view shall have a fine-grained texture similar to natural stone, complying with ASTM C1364, with no air voids in excess of 1/32 in. and the density of such voids shall be less than 3 occurrences per any 1 in.2 and not obvious under direct daylight illumination at a 5 ft distance.
- C. Units shall exhibit a texture approximately equal to the approved sample when viewed under direct daylight illumination at a 5 ft distance.
  - 1. ASTM D 2244 permissible variation in color between units of comparable age subjected to similar weathering exposure.
  - 2. Total color difference – not greater than 6 units.
  - 3. Total hue difference – not greater than 2 units.
- D. Chipping resulting from shipment and delivery shall be grounds for rejection at the sole discretion of the Architect. Minor chips shall not be obvious under direct daylight illumination..
- E. The occurrence of crazing or efflorescence shall constitute a cause for rejection.
- F. Remove cement film, if required, from exposed surfaces prior to packaging for shipment.

## 2.4 CURING

- A. Cure units in a warm curing chamber approximately 100°F (37.8°C) at 95 percent relative humidity for approximately 12 hours, or cure in a 95 percent moist environment at a minimum 70°F (21.1°C) for 16 hours after casting. Additional yard curing at 95 percent relative humidity shall be 350 degree-days (i.e. 7 days @ 50°F (10°C) or 5 days @ 70°F (21°C)) prior to shipping. Form cured units shall be protected from moisture evaporation with curing blankets or curing compounds after casting.

## 2.5 MANUFACTURING TOLERANCES

- B. Cross section dimensions shall not deviate by more than  $\pm 1/8$  in. from approved dimensions.
- C. Length of units shall not deviate by more than length/360 or  $\pm 1/8$  in., whichever is greater, not to exceed  $\pm 1/4$  in.
  - 1. Maximum length of any unit shall not exceed 15 times the average thickness of such unit unless otherwise agreed by the manufacturer.
- D. Warp, bow or twist of units shall not exceed length/360 or  $\pm 1/8$  in., whichever is greater.
- E. Location of dowel holes, anchor slots, flashing grooves, false joints and similar features – On formed sides of unit, 1/8 in., on unformed sides of unit, 3/8 in. maximum deviation.

## 2.6 PRODUCTION QUALITY CONTROL

- A. Testing.
  - 1. Test compressive strength and absorption from specimens taken from every 500 cubic feet of product produced.
  - 2. Perform tests in accordance ASTM C 1194 and C 1195.
  - 3. Have tests performed by an independent testing laboratory every six months.
  - 4. New and existing mix designs shall be tested for strength and absorption compliance prior to producing units.
  - 5. Retain copies of all test reports for a minimum of two years.

## 2.7 DELIVERY, STORAGE AND HANDLING

- A. Mark production units with the identification marks as shown on the shop drawings.
- B. Package units and protect them from staining or damage during shipping and storage.
- C. Provide an itemized list of product to support the bill of lading.

# PART 3 EXECUTION

## 3.1 PREINSTALLATION INSPECTION

- A. Installing contractor shall check Cast Stone materials for fit and finish prior to installation. Unacceptable units shall not be set.

## 3.2 SETTING TOLERANCES

- A. Comply with Cast Stone Institute Technical Manual.
- B. Set stones 1/16 in. or less, within the plane of adjacent units.
- C. Joints, plus - 1/16 in., minus - 1/16 in.

### 3.3 JOINTING

- A. Joint size:
  - 1. At stone/brick joints 3/8 in.
  - 2. At stone/stone joints in vertical position 3/8 in.
  - 3. Stone/stone joints exposed on top 3/8 in.
- B. Joint materials:
  - 1. Mortar, Type N, ASTM C 270.
  - 2. Use a full bed of mortar at all bed joints.
- C. Flush vertical joints full with mortar.
  - 1. Leave all joints with exposed tops or under relieving angles open for sealant.
  - 2. Leave head joints in copings and projecting components open for sealant.

### 3.4 SETTING

- A. Drench units with clean water prior to setting.
- B. Set units in full bed of mortar, unless otherwise detailed.
- C. Rake mortar joints 3/4 in. in for pointing.
- D. Remove excess mortar from unit faces immediately after setting.
- E. Tuck point unit joints to a slight concave profile.

### 3.5 JOINT PROTECTION

- A. Comply with requirements of Section 07 90 00.
- B. Prime ends of units, insert properly sized backing rod and install required sealant of color to match stone.

### 3.6 REPAIR AND CLEANING

- A. Repair chips with touchup materials furnished by manufacturer and as acceptable to Architect.
- B. Saturate units to be cleaned prior to applying an approved masonry cleaner.
- C. Consult with manufacturer for appropriate cleaners.

### 3.7 INSPECTION AND ACCEPTANCE

- A. Inspect finished installation according to Cast Stone Institute Technical Bulletin #36.
- B. Do not field apply water repellent until repair, cleaning, inspection and acceptance is completed.

### 3.8 WATER REPELLENT

- A. Apply water repellent in accordance with Cast Stone Institute Technical Bulletin #35 or water repellent manufacturer's directions.

END OF SECTION



SECTION 05 50 00  
METAL FABRICATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Shop fabricated steel and metal items, including:
  - 1. Ladders
  - 2. Toilet Partition Suspension Members
  - 3. Structural supports for miscellaneous attachments

1.2 RELATED REQUIREMENTS

- A. Section 03 30 00 - Cast-in-Place Concrete: Placement of metal fabrications in concrete.
- B. Section 09 90 00 - Painting and Coating: Paint finish.

1.3 REFERENCE STANDARDS

- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.
- C. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.
- D. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- E. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2014.
- F. ASTM A325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength (Metric); 2014.
- G. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2014.
- H. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; American Welding Society; 2012.
- I. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2015.
- J. NOMMA Guideline 1 - Joint Finishes
- K. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; Society for Protective Coatings; 1999 (Ed. 2004).
- L. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).
- M. SSPC-SP 2 - Hand Tool Cleaning; Society for Protective Coatings; 1982 (Ed. 2004).

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.

1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
- C. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.

#### 1.5 QUALITY ASSURANCE

- A. Finish joints in accordance with NOMMA Guideline 1.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Accept metal fabrications on site in labeled shipments. Inspect for damage.
- C. Protect metal fabrications from damage by exposure to weather.

### PART 2 PRODUCTS

#### 2.1 MATERIALS - STEEL

- A. Steel Sections: ASTM A 36/A 36M.
- B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.
- C. Steel Plates: ASTM A 36/A 36M.
- D. Pipe: ASTM A 53/A 53M, Grade B Schedule 40, black finish.
- E. Slotted Channel Framing: ASTM A 653, Grade 33 Structural quality with galvanized coating.
- F. Bolts, Nuts, and Washers:
  1. Bolts: ASTM A 325; Type 1
  2. Nuts: ASTM A 563 heavy hex type
  3. Washers: ASTM F 436; Type 1
- G. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- H. Shop and Touch-Up Primer: SSPC-Paint 15, Type 1, complying with VOC limitations of authorities having jurisdiction.
  1. Color: Red Oxide, or Gray where structural steel is specified to be provided with Gray primer.
- I. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

#### 2.2 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.



## 2.3 FABRICATED ITEMS

- A. Toilet Partition Suspension Members: steel angle sections, prime painted of size required to support partition supports..
- B. Other Structural Supports: Steel sections, shape and size as indicated on drawings required to support applied loads with maximum deflection of 1/240 of the span; prime paint, one coat.

## 2.4 FINISHES - STEEL

- A. Prime paint steel items.
  - 1. Exceptions: Galvanize items to be embedded in concrete or masonry and items as specified in drawings..
  - 2. Exceptions: Do not prime surfaces in direct contact with concrete, where field welding is required, and items to be covered with sprayed fireproofing.
- B. Prepare surfaces to be primed in accordance with SSPC-SP2.
- C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- D. Prime Painting: One coat.
- E. Galvanizing of Structural Steel Members: Galvanize after fabrication to ASTM A123/A123M requirements.
- F. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A 123/A 123M requirements; minimum 2.0 oz/sq ft coating thickness.
- G. Galvanizing for Fasteners, Connectors and Anchors: Hot-Dipped Galvanizing to ASTM A 153/A 153M.

## 2.5 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify that field conditions are acceptable and are ready to receive work.

### 3.2 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

### 3.3 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.

- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Field weld components as indicated on drawings.
- D. Perform field welding in accordance with AWS D1.1/D1.1M.
- E. Obtain approval prior to site cutting or making adjustments not scheduled.
- F. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.

#### 3.4 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch per story or for every 12 ft in height whichever is greater, non-cumulative.
- B. Maximum Offset From True Alignment: 1/4 inch.
- C. Maximum Out-of-Position: 1/4 inch.

#### 3.5 FIELD QUALITY CONTROL

- A. Welding: Inspect welds in accordance with AWS D1.1.

END OF SECTION

DOCUMENT 06 10 00  
ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
  - 1. Framing with dimension lumber.
  - 2. Wood blocking and nailers.

1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
  - 1. Retain only those grading agencies referenced in this Section.
  - 2. NELMA: Northeastern Lumber Manufacturers' Association.
  - 3. NLGA: National Lumber Grades Authority.
  - 4. WCLIB: West Coast Lumber Inspection Bureau.
  - 5. WWPAA: Western Wood Products Association.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
  - 1. Factory mark each piece of lumber with grade stamp of grading agency.
  - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
  - 3. Provide dressed lumber, S4S, unless otherwise indicated.

- B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

## 2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWWPA U1; Use Category UC2.
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
  - 1. Wood sills, sleepers, blocking, stripping, and similar concealed members in contact with masonry or concrete.

## 2.3 DIMENSION LUMBER FRAMING

- A. Joists, Rafters, and Other Framing Not Listed Above: Construction or No. 2 grade unless noted otherwise.
  - 1. Species:
    - a. Spruce-pine-fir; NLGA.

## 2.4 PLYWOOD BACKING BOARDS AND SHEET ROOF DECKING

- A. Equipment Backing Panels: DOC PS 1, Exterior, C-C Plugged, in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.
  - 1. Provide painted finish on all exposed faces and sides of backing boards of color to match wall finish backing board is applied.
  - 2. Secure backing boards to wall framing or solid blocking with screws of proper length. Provide at 16 inches o.c. at perimeter and 32 inches o.c. in field.

## 2.5 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
  - 1. Blocking.
  - 2. Nailers.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber and any of the following species:
  - 1. Spruce-pine-fir; NLGA.
  - 2. Eastern softwoods; NELMA.
- C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:
  - 1. Spruce-pine-fir (south) or spruce-pine-fir; Construction or No. 2 Common grade; NELMA, NLGA, WCLIB, or WWPA.
- D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

- E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

## 2.6 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
  - 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
  - 1. Provide metal clips for fastening gypsum board at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.
- C. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- D. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
  - 1. Use inorganic boron for items that are continuously protected from liquid water.
  - 2. Use copper naphthenate for items not continuously protected from liquid water.
- E. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  - 1. NES NER-272 for power-driven fasteners.
  - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
- F. Use steel screws unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive screws snug and flush, but do not countersink unless otherwise indicated.

### 3.2 PROTECTION

- A. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes sufficiently wet that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION



SECTION 06 13 00

HEAVY TIMBER CONSTRUCTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Kiln-dried structural timbers.

1.2 RELATED SECTIONS

- A. Section 06 10 00 - Rough Carpentry.
- B. Section 06 15 00 - Wood Decking.
- C. Section 06 17 53 - Shop-Fabricated Wood Trusses.

1.3 REFERENCES

- A. AITC 108 - Standard for Heavy Timber Construction.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Technical data indicating compliance with specifications and standards.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in providing products of the type specified in this section, with minimum of 5 years documented experience with products in use.
- B. Manufacturing Standard: Conform to AITC A108.
- C. Labeling Requirements: Each length of lumber shall be stamped at the mill indicating certification mark, mill identification, grade name, and inspection certificate. All labels shall be placed on surfaces where it will not be exposed to view when installed.

1.6 PERFORMANCE REQUIREMENTS

- A. Design Wind Pressure: As indicated on the Drawings.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products under cover and protected from the weather until ready for installation.
- B. Package products to stay clean until installation.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Kiln Dried Timbers: Douglas fir, grade #1&Btr, FOHC (free of heart center); kiln-dried to 19 percent or less 1 inch from all surfaces utilizing computer-controlled low-pressure steam system or microwave.
  - 1. Finish: Rougherhead 4 sides.
    - a. Nominal Size: 3x10.
    - b. Nominal Size: 3x12.
    - c. Nominal Size: 4x4.
    - d. Nominal Size: 4x6.
    - e. Nominal Size: 4x8.
    - f. Nominal Size: 4x10.
    - g. Nominal Size: 4x12.
    - h. Nominal Size: 6x6.
    - i. Nominal Size: 6x8.
    - j. Nominal Size: 6x10.
    - k. Nominal Size: 6x12.
    - l. Nominal Size: 6x14.
    - m. Nominal Size: 6x16.
    - n. Nominal Size: 8x8.
    - o. Nominal Size: 8x10.
    - p. Nominal Size: 8x12.
    - q. Nominal Size: 8x14.
    - r. Nominal Size: 8x16.
    - s. Nominal Size: 10x10.
    - t. Nominal Size: 10x12.
    - u. Nominal Size: 12x12.
- B. Connectors and Fasteners: Refer to specification section 05 50 00 – Metal Fabrications.
- C. Fabrication: Shop fabricate timbers to the greatest extent practical, including predrilling.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.

### 3.2 INSTALLATION

- A. Erect timbers true and plumb, and in accordance with approved shop drawings.
- B. Repair or replace damaged timbers before Substantial Completion.

END OF SECTION



SECTION 06 15 00  
WOOD DECKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

- A. Section Includes:
  - 1. Laminated wood decking.
- B. Related Sections:
  - 1. 06 17 53 Shop Fabricated Wood Trusses

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
  - 1. For preservative-treated wood products, include chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Schedule delivery of wood decking to avoid extended on-site storage and to avoid delaying the Work.
- B. Store materials under cover and protected from weather and contact with damp or wet surfaces. Provide for air circulation within and around stacks and under temporary coverings. Stack wood decking with surfaces that are to be exposed in the final Work protected from exposure to sunlight.

PART 2 - PRODUCTS

2.1 WOOD DECKING, GENERAL

- A. General: Comply with applicable grading rules of inspection agencies SPIB or WWPA.
- B. Certified Wood: Wood decking shall be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
- C. Moisture Content: Provide wood decking with 15 percent maximum moisture content at time of dressing.

2.2 ORIENTED STRAND BOARD DECKING

- A. Manufactured from waterproof heat-cured adhesive wood strands arranged in cross-oriented layers.
  - 1. Thickness: 19/32", 23/32".
  - 2. Panel sizes: 4' x 8', and 4' x 10'.
  - 3. Edges: Tongue and groove.

### 2.3 GLUED-LAMINATED WOOD DECKING

- A. Face Species: Southern Yellow Pine.
- B. Decking Nominal Size: 4'-0" x 8'-0" sheet goods of thickness identified on drawings.
- C. Face Surface: Smooth sanded.
- D. Standard Pattern: Bull Nose, or Channel Groove.
- E. Moisture Content: not to exceed 15% at time of manufacture.
- F. Laminating Adhesive: Wet-use type complying with ASTM D 2559.
  - 1. Adhesives shall contain no urea-formaldehyde resins.

### 2.4 ACCESSORY MATERIALS

- A. Fasteners for Glued-Laminated Decking: Provide fastener size and type complying with requirements in "Installation" Article for installing laminated decking.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine walls and support framing in areas to receive wood decking for compliance with installation tolerances and other conditions affecting performance of wood decking.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Install wood decking to comply with referenced decking standard.
  - 1. Locate end joints for controlled random lay-up, simple span, two span.
- B. Apply joint sealant to seal roof decking at exterior walls at the following locations:
  - 1. Between decking and supports located at exterior walls.
  - 2. Between decking and exterior walls that butt against underside of decking.
  - 3. Between tongues and grooves of decking over exterior walls and supports at exterior walls.

### 3.3 ADJUSTING

- A. Repair damaged surfaces and finishes after completing erection. Replace damaged decking if repairs are not approved by Architect.

### 3.4 PROTECTION

- A. Provide temporary waterproof covering as the Work progresses to protect roof decking until roofing is applied.

END OF SECTION

SECTION 06 17 53

SHOP-FABRICATED WOOD TRUSSES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Wood roof trusses.
  - 2. Wood truss bracing.
  - 3. Metal truss accessories.

1.2 RELATED DOCUMENTS

- A. Section 06 10 00 - Rough Carpentry.
- B. Section 06 15 00 - Wood Decking.
- C. Section 07 31 13 - Asphalt Shingles.
- D. Section 07 31 30 – Polymeric Shingles.
- E. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.3 DEFINITIONS

- A. Metal-Plate-Connected Wood Trusses: Planar structural units consisting of metal-plate-connected members fabricated from dimension lumber and cut and assembled before delivery to Project site.

1.4 SUBMITTALS

- A. Shop Drawings: Provide shop drawings for installed products indicated to comply with design loads. Include structural analysis data signed and sealed by a qualified professional engineer, in the jurisdiction of the project and responsible for their preparation.
- B. Show fabrication and installation details for trusses.
  - 1. Show location, pitch, span, camber, configuration, and spacing for each type of truss required.
  - 2. Indicate sizes, stress grades, and species of lumber.
  - 3. Indicate locations of permanent bracing required to prevent buckling of individual truss members due to design loads.
  - 4. Indicate locations, sizes, and materials for permanent bracing required to prevent buckling of individual truss members due to design loads.
  - 5. Indicate type, size, material, finish, design values, orientation, and location of metal connector plates.
  - 6. Show splice details and bearing details.
- C. Delegated-Design Submittal: For metal-plate-connected wood trusses indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation. Including connections to the structure where indicated on the drawings.
- D. Material Certificates: For dimension lumber specified to comply with minimum specific gravity. Indicate species and grade selected for each use and specific gravity.
- E. Product Certificates: For metal-plate-connected wood trusses, signed by officer of truss fabricating firm.
- F. Evaluation Reports: For the following, from ICC-ES:

1. Metal-plate connectors.
2. Metal truss accessories.

#### 1.5 QUALITY ASSURANCE

- A. Metal Connector-Plate Manufacturer Qualifications: A manufacturer that is a member of TPI and that complies with quality-control procedures in TPI 1 for manufacture of connector plates.
  1. Manufacturer's responsibilities include providing professional engineering services needed to assume engineering responsibility.
  2. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer in the jurisdiction of the project.
- B. Fabricator Qualifications: Shop that participates in a recognized quality-assurance program that complies with quality-control procedures in TPI 1 and that involves third-party inspection by an independent testing and inspecting agency acceptable to Architect and authorities having jurisdiction.
- C. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Handle and store trusses to comply with recommendations in TPI BCSI, "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."
  1. Store trusses flat, off of ground, and adequately supported to prevent lateral bending.
  2. Protect trusses from weather by covering with waterproof sheeting, securely anchored.
  3. Provide for air circulation around stacks and under coverings.
- B. Inspect trusses showing discoloration, corrosion, or other evidence of deterioration. Discard and replace trusses that are damaged or defective.

### PART 2 - PRODUCTS

#### 2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer to design metal-plate-connected wood trusses.
- B. Structural Performance: Provide metal-plate-connected wood trusses capable of withstanding design loads within limits and under conditions indicated. Comply with requirements in TPI 1 unless more stringent requirements are specified below.
  1. Design Loads: As indicated.
  2. Maximum Deflection Under Design Loads:
    - a. Roof Trusses: Vertical deflection of 1/360 of span, or 7/8" max.
- C. Comply with applicable requirements and recommendations of the following publications:
  1. TPI 1, "National Design Standard for Metal Plate Connected Wood Truss Construction."
  2. TPI DSB, "Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses."
  3. TPI BCSI, "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."
- D. Wood Structural Design Standard: Comply with applicable requirements in AF&PA's "National Design Specifications for Wood Construction" and its "Supplement."

#### 2.2 DIMENSION LUMBER

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
  - 1. Factory mark each piece of lumber with grade stamp of grading agency.
  - 2. Provide dressed lumber, S4S.
  - 3. Provide dry lumber with 15 percent maximum moisture content at time of dressing.
- B. Minimum Chord Size for Roof Trusses: 2 by 4 inches nominal for top chords. Size bottom chord for floor loading specified on drawings, Where not specified provide minimum 40 pounds per square foot live load.
- C. Permanent Bracing: Provide wood bracing that complies with requirements for miscellaneous lumber in Section 06 10 00 "Rough Carpentry."

### 2.3 METAL CONNECTOR PLATES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Alpine Engineered Products, Inc.; an ITW company.
  - 2. Cherokee Metal Products, Inc.; Masengill Machinery Company.
  - 3. CompuTrus, Inc.
  - 4. Eagle Metal Products.
  - 5. Jager Building Systems, Inc.; a Tembec/SGF Rexfor company.
  - 6. MiTek Industries, Inc.; a subsidiary of Berkshire Hathaway Inc.
  - 7. Robbins Engineering, Inc.
  - 8. Truswal Systems Corporation; an ITW company.
- B. Source Limitations: Obtain metal connector plates from single manufacturer.
- C. General: Fabricate connector plates to comply with TPI 1.
- D. Hot-Dip Galvanized-Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS); G60 (Z180) coating designation; and not less than 0.036 inch (0.9 mm) thick.
  - 1. Use for interior locations unless otherwise indicated.
- E. Hot-Dip Heavy-Galvanized-Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), ; G60 coating designation;.

### 2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
  - 1. Provide fasteners for use with framing anchors, that comply with written recommendations of metal framing manufacturer.
  - 2. Where trusses are exposed to weather, in ground contact, made from pressure-preservative treated wood, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.

### 2.5 METAL FRAMING ANCHORS AND ACCESSORIES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, those specified below in item B.
- B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
  - 1. Cleveland Steel Specialty Co.

2. KC Metals Products, Inc.
  3. Phoenix Metal Products, Inc.
  4. Simpson Strong-Tie Co., Inc.
  5. USP Structural Connectors.
- C. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
- D. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.
- E. Use for interior locations unless otherwise indicated.
- F. Hot-Dip Heavy-Galvanized-Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 (Z550) coating designation; and not less than 0.036 inch (0.9 mm) thick.
- G. Truss Tie-Downs: Provide hurricane clip anchor for fastening roof trusses to wall below.
- H. Roof Truss Bracing/Spacers: U-shaped channels, 1-1/2 inches (38 mm) wide by 1 inch (25 mm) deep by 0.040 inch (1.0 mm) thick, made to fit between two adjacent trusses and accurately space them apart, and with tabs having metal teeth for fastening to trusses.

## 2.6 FABRICATION

- A. Cut truss members to accurate lengths, angles, and sizes to produce close-fitting joints.
- B. Fabricate metal connector plates to sizes, configurations, thicknesses, and anchorage details required to withstand design loads for types of joint designs indicated.
- C. Assemble truss members in design configuration indicated; use jigs or other means to ensure uniformity and accuracy of assembly with joints closely fitted to comply with tolerances in TPI 1. Position members to produce design camber indicated.
  1. Fabricate wood trusses within manufacturing tolerances in TPI 1.
- D. Connect truss members by metal connector plates located and securely embedded simultaneously in both sides of wood members by air or hydraulic press.

## 2.7 SOURCE QUALITY CONTROL

- A. Correct deficiencies in Work that special inspections indicate does not comply with the Contract Documents.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install wood trusses only after supporting construction is in place and is braced and secured.
- B. Hoist trusses in place by lifting equipment suited to sizes and types of trusses required, exercising care not to damage truss members or joints by out-of-plane bending or other causes.
- C. Install and brace trusses according to TPI recommendations and as indicated.
- D. Install trusses plumb, square, and true to line and securely fasten to supporting construction.
- E. Space trusses as indicated; adjust and align trusses in location before permanently fastening.
- F. Anchor trusses securely at bearing points; use metal truss tie-downs. Install fasteners through each fastener hole in metal framing anchors according to manufacturer's fastening schedules and written instructions.

- G. Install and fasten permanent bracing during truss erection and before construction loads are applied. Anchor ends of permanent bracing where terminating at walls or beams.
- H. Install bracing to comply with Section 06 10 00 "Rough Carpentry".
- I. Install wood trusses within installation tolerances in TPI 1.
- J. Do not alter trusses in field. Do not cut, drill, notch, or remove truss members.
- K. Replace wood trusses that are damaged or do not meet requirements.
  - 1. Damaged trusses may be repaired according to truss repair details signed and sealed by the qualified professional engineer responsible for truss design, when approved by Architect.

### 3.2 REPAIRS AND PROTECTION

- A. Protect wood trusses from weather. If, despite protection, wood trusses become wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Repair damaged galvanized coatings on exposed surfaces with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

END OF SECTION





SECTION 06 20 00  
FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
  - 1. Finish carpentry items.
  - 2. Interior trim for wood wainscot construction.
  - 3. Wood wall base construction.
  - 4. Solid surface sills.
- B. Related Requirements:
  - 1. Section 06 10 00-Rough Carpentry: For furring, blocking, and other carpentry work not exposed to view.
  - 2. Section 09 90 00-"Staining and Transparent Finishing" for interior trim.

1.3 SUBMITTALS

- A. Samples for Initial Selection: Provide 6 inch X6 inch sample of finish on specified material. Sample shall be representative of color, profiles, and texture.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver interior finish carpentry materials only when environmental conditions meet requirements specified for installation areas. If interior finish carpentry materials must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install interior finish carpentry materials until building is enclosed and weatherproof, wet work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
  - 1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Lumber: DOC PS 20 and the following grading rules:
  - 1. NeLMA: Northeastern Lumber Manufacturers' Association, "Standard Grading Rules for Northeastern Lumber."
  - 2. Species: White Pine.
- B. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.
  - 1. For exposed lumber, mark grade stamp on end or back of each piece.

## 2.2 WOOD WAINSCOT AND WALL BASE

- A. Forever Barnwood ¾ inch X 6-1/4 inch ship lap with circle sawn finish or equal.
  - 1. Install with circle sawn finish on visible sides.
- B. Colors: Provide the following colors in vertical random install pattern application.
  - 1. 100 Year Old.
  - 2. Red Barn.
  - 3. 50 Year Old.
  - 4. White Wash.
  - 5. Patina Gray.
- C. Install with end joints of non-matching boards visible in 20 percent of installed boards.
- D. Provide cap rail with sanded surface on 2-sides of cap.

## 2.3 FIXED ROD AND SHELF BRACKET

- A. Knape & Vogt 1198 Extra-Duty Series bracket.
  - 1. Finish: Bronze.
  - 2. Provide bronze screws to attach to solid blocking within wall assembly.
  - 3. Provide ¾ inch thick white pine wood shelving with tongue and groove glued joint or biscuit joints..

## 2.4 PANEL MATERIALS

- A. Particleboard: ANSI A208.1; medium density industrial type as specified in AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, composed of wood chips bonded with interior grade adhesive under heat and pressure; sanded faces; thickness as required; use for components indicated on drawings.

## 2.5 SOLID SURFACE SILLS

- A. Non-porous, homogeneous material maintaining the same composition throughout the part with a composition of acrylic polymer, aluminum trihydrate filler and pigment; not coated, laminated or of composite construction; meeting following criteria:
  - 1. Flammability: Class 1 and A when tested to UL 723.
- B. Windowsills: 1/2" thick solid surfacing material with 1" X 1" nosing, adhesively joined with inconspicuous seams, edge details as indicated on drawings. Color selected by Architect from manufacturer's full color range and as scheduled in specification section 09 00 00 – Room Finish Key and Schedule.

- C. Fabrication:
  - 1. Fabricate components in shop to greatest extent practical to sizes and shapes indicated, in accordance with approved Shop Drawings and solid polymer manufacturer requirements. Form joints between components using manufacturer's standard joint adhesive without conspicuous joints.
  - 2. Where indicated, thermoform corners and edges or other objects to shapes and sizes indicated on Drawings, prior to seaming and joining. Cut components larger than finished dimensions and sand edges to remove nicks and scratches. Heat entire component uniformly prior to forming.
  - 3. Ensure no blistering, whitening and cracking of components during forming.
  - 4. Fabricate joints between components using manufacturer's standard joint adhesive. Ensure joints are inconspicuous in appearance and without voids.
  - 5. Rout and finish component edges to a smooth, uniform finish. Rout cutouts, then sand edges smooth. Repair or reject defective or inaccurate work.
- D. Finish: Ensure surfaces have uniform finish: Matte, with a 60° gloss rating of 5 - 20.
- E. Fabrication Tolerances:
  - 1. Variation in Component Size: +/-1/8".
  - 2. Location of Openings: +/-1/8" from indicated location.

## 2.6 ACCESSORIES

- 1. Adhesive: Type recommended by fabricator to suit application. Do not use adhesives that contain urea formaldehyde.
- 2. VOC Limits for Installation Adhesives and Glues: Use installation adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
  - a. Wood Glues: 30 g/L.
  - b. Contact Adhesive: 250 g/L.
- B. Fasteners for Interior Finish Carpentry: Nails, brads, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
- C. Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.

## 2.7 COUNTER SUPPORT BRACKETS

- F. Provide Rakks EH-1818 FM and EH-1824 FM support brackets.
  - 1. Finish: Black.
  - 2. Provide screws to match finish of bracket.
  - 3. Provide counter support brackets at 5'-0" maximum spacing, and at end of counters, at locations where base cabinets and wall cleats are not provided for counter support.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

- B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

### 3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, too small to fabricate with proper jointing arrangements, or with defective surfaces, sizes, or patterns.
- B. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
  - 1. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
  - 2. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.
  - 3. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining interior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
  - 4. Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.

### 3.4 STANDING AND RUNNING TRIM INSTALLATION

- A. Install wainscot wall panels with 20 percent joints visible in random pattern. Provide minimum number of joints practical in wood wall base, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 48 inches long, except where necessary. Stagger joints in adjacent and related standing and running trim. Miter at returns, miter at outside corners, and cope at inside corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints in wall base for end-to-end joints and butt joints in wainscot wall panels. Plane backs of casings to provide uniform thickness across joints where necessary for alignment.
  - 1. Install trim after gypsum-board joint finishing operations are completed.
  - 2. Install without splitting; drill pilot holes before fastening where necessary to prevent splitting. Fasten to prevent movement or warping. Conceal fastener heads on exposed carpentry work where possible. Countersink and fill holes where concealed fasteners are not possible.

### 3.5 ADJUSTING

- A. Replace interior finish carpentry that is damaged or does not comply with requirements. Interior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.6 CLEANING

- A. Clean interior finish carpentry on exposed and semi-exposed surfaces. Restore damaged or soiled areas and touch up factory-applied finishes.

3.7 PROTECTION

- A. Protect installed products from damage from weather and other causes during construction.
- B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.

END OF SECTION



SECTION 07 21 00  
THERMAL INSULATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Foam-plastic board insulation.
  2. Glass-fiber blanket insulation.
  3. Polyisocyanurate board insulation.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 QUALITY ASSURANCE

- A. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.
- B. Protect board insulation as follows:
1. Do not expose to sunlight except to necessary extent for period of installation and concealment.
  2. Protect against ignition at all times. Do not deliver foam-plastic board materials to Project site before installation time.
  3. Quickly complete installation and concealment of foam-plastic board insulation in each area of construction.

PART 2 - PRODUCTS

2.1 FOAM-PLASTIC BOARD INSULATION

- A. Extruded-Polystyrene Board Insulation: ASTM C 578, of type and minimum compressive strength indicated below, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. DiversiFoam Products.
    - b. Dow Chemical Company (The).

- c. Owens Corning.
- 2. Type IV, 25 psi.

- B. Adhesive for Bonding Insulation: Product with demonstrated capability to bond insulation securely to substrates without damaging insulation and substrates.

## 2.2 GLASS-FIBER BLANKET INSULATION

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. CertainTeed Corporation.
  - 2. Knauf Insulation.
  - 3. Owens Corning.
- B. Recycled Content: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 10 percent.
- C. Un-Faced, Glass-Fiber Blanket Sound Attenuation Insulation: ASTM C 665, Type II.
- D. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide cross ventilation between insulated attic spaces and vented eaves.
- E. Sustainability Requirements: Provide glass-fiber blanket insulation as follows:
  - 1. Free of Formaldehyde: Insulation manufactured with 100 percent acrylic binders and no formaldehyde.
  - 2. Low Emitting: Insulation tested according to ASTM D 5116 and shown to emit less than 0.05-ppm formaldehyde.

## 2.3 POLYISOCYANURATE BOARD INSULATION

- A. Polyisocyanurate Board Insulation: Rigid cellular foam, complying with ASTM C1289, Type II, Class 1, cellulose felt or glass fiber mat both faces; Grade 1 and with the following characteristics:
  - 1. Compressive Strength: 20 psi (minimum)
  - 2. Board Size: 48 by 96 inch.
  - 3. Board Thickness: 1 inch, 2 inch. And 4 inch.
  - 4. Thermal Resistance: R-value of 30 minimum.
  - 5. Board Edges: Square.
  - 6. Board Density: 1.8 lb/cu ft.
  - 7. Flame Spread: 50 max. per ASTM E84
  - 8. Manufacturers:
    - a. Carlisle SynTec Inc. [www.carlisle-syntec.com](http://www.carlisle-syntec.com).
    - b. Firestone Building Products Co: [www.firestonebpco.com](http://www.firestonebpco.com).
    - c. Hunter Panels
  - 9. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Insulated Sheathing: board insulation bonded to oriented strand board sheathing material.
  - 1. Type V, 15 psi.
  - 2. Sheathing Board Thickness: As noted on drawings.



## 2.4 INSULATION FASTENERS

- A. Anchor Adhesive: Product with demonstrated capability to bond insulation anchors securely to substrates indicated without damaging insulation, fasteners, and substrates.
- B. Fasten polyisocyanurate roof insulation to timber deck boards without extending fastener through roof decking. Avoid visible fasteners within the building.

## 2.5 INSULATION JOINT TAPE

- A. Glass fiber reinforced type as recommended by insulation manufacturer, compatible with roofing materials; 6 inches wide; self-adhering.

# PART 3 - EXECUTION

## 3.1 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

## 3.2 INSTALLATION OF BELOW-GRADE INSULATION

- A. On vertical footing and foundation wall surfaces, set insulation units using manufacturer's recommended adhesive according to manufacturer's written instructions.
  - 1. If not otherwise indicated, extend insulation to top of footing.
- B. On horizontal surfaces under slabs, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.
  - 1. If not otherwise indicated, extend insulation a minimum of 24 inches in from exterior walls.

## 3.3 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.

- B. Foam-Plastic Board Insulation: Seal joints between units by applying adhesive, mastic, or sealant to edges of each unit to form a tight seal as units are shoved into place. Fill voids in completed installation with adhesive, mastic, or sealant as recommended by insulation manufacturer.
- C. Glass-Fiber or Mineral-Wool Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
  - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
  - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
  - 3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
  - 4. Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.

### 3.4 INSTALLATION OF ROOF BOARD INSULATION

- A. Verify deck is supported and secure.
- B. Verify deck is clean and smooth, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
- C. Verify deck surfaces are dry and free of snow or ice. Coordinate with Architect to identify existing wet insulation locations. Provide 48 hours' notice prior to membrane removal.
- D. Lay subsequent layers of insulation with joints staggered minimum 6 inch from joints of preceding layer.
- E. Install insulation under area of roofing to achieve required thermal resistance value.
- A. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- B. Secure all insulation, staggering all joints, to the vapor retarder in accordance with the manufacturer's specifications and application procedures for a mechanically fastened application.
- C. Tape joints of insulation in accordance with roofing and insulation manufacturers' instructions.
- F. Install insulation and secure entire system to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to roof deck.
- G. Fasten Insulation to resist uplift pressure at corners, perimeter, and field of roof.

END OF SECTION

DOCUMENT 07 24 00

EXTERIOR INSULATION FINISH SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Exterior Insulation Finish System with Air and Moisture Barrier for vertical above grade exterior wall substrate surfaces.

1.2 SUBMITTALS

- A. Manufacturer's specifications, details, installation instructions and product data.
- B. Manufacturer's standard warranty.
- C. Color samples: Provide 4"X4" sample of finish color selected by Architect from manufacturer's full line of colors. Provide up to 4 color samples of color range selected in specified/selected finish.
- D. Shop Drawings: Prepare and submit project-specific details identifying transitions, terminations, and conditions/interface with adjacent materials.
- E. Product data: Provide manufacturer's product information describing system assembly, products, and ability to meet project requirements.

1.3 QUALITY ASSURANCE

- A. Manufacturer requirements:
  - 1. System manufacturer for a minimum of ten years.
- B. Contractor requirements
  - 1. Engaged in application of EIFS for a minimum of three (3) years.
  - 2. Contractor shall be approved by the material manufacturer for the installation of products specified.
  - 3. Employ skilled mechanics who are experienced and knowledgeable in EIFS application, and familiar with the requirements of the specified work.
  - 4. Successful completion of minimum of three (3) projects of similar size and complexity to the specified project.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver all materials in their original sealed containers bearing manufacturer's name and identification of product.
- B. Protect coatings (pail products) from freezing and temperatures in excess of 90°F (32° C). Store away from direct sunlight.
- C. Protect Portland cement based materials (bag products) from moisture and humidity. Store under cover off the ground in a dry location.

1.5 PROJECT/SITE CONDITIONS

- A. Maintain ambient and surface temperatures above 40°F (4°C) during application and drying period, minimum 24 hours after application of Air/Moisture barrier and EIFS.

- B. Provide supplementary heat for installation in temperatures less than 40°F (4°C).
- C. Provide protection of surrounding areas and adjacent surfaces from application of materials.

1.6 COORDINATION/SCHEDULING

- A. Coordinate installation of windows and doors so air barrier components are connected to them to provide a continuous air barrier.
- B. Install diverter flashings wherever water can enter the wall assembly to direct water to the exterior.
- C. Install copings and sealant immediately after installation of the EIF system and when EIFS coatings are dry.
- D. Attach penetrations through EIFS to structural support and provide water tight seal at penetrations.

1.7 WARRANTY

- A. Provide manufacturer's standard warranty.

1.8 DESIGN REQUIREMENTS

- A. Wind Load
  - 1. Design for wind load in conformance with code requirements.
- B. Moisture Control
  - 1. Prevent the accumulation of water behind the EIF system, either by condensation or leakage through the wall construction, in the design and detailing of the wall assembly.
    - a. Provide flashing to direct water to the exterior where it is likely to penetrate components in the wall assembly.
    - b. Air Leakage Prevention-- provide continuity of air barrier system at foundation, windows, doors and other penetrations through the system with connecting and compatible air barrier components to minimize condensation and leakage caused by air movement.
- C. Impact Resistance
  - 1. Provide ultra-high impact resistance above finished grade at all areas accessible to pedestrian traffic and other areas exposed to abnormal stress or impact.
- D. Joints
  - 1. Provide minimum 5/8 inch (19 mm) wide expansion joints in the EIFS where they exist in the substrate or supporting construction, where the EIFS adjoins dissimilar construction or materials, at changes in building height, and at locations indicated on drawings.
  - 2. Provide minimum 1/2 inch (13 mm) wide perimeter sealant joints at all penetrations through the EIFS
  - 3. Provide compatible backer rod and sealant that has been evaluated in accordance with ASTM C 1382, "Test Method for Determining Tensile Adhesion Properties of Sealants When Used in Exterior Insulation and Finish System (EIFS) Joints," and that meets minimum 50% elongation after conditioning. Refer to section 07 90 05.
  - 4. Assure air barrier continuity is maintained across the joint and drain joints to the exterior.

1.9 PERFORMANCE REQUIREMENTS

Table 1—Air/Moisture Barrier Performance

TEST	METHOD	CRITERIA	RESULT
1. Water Penetration Resistance	AATCC 127 (Water Column)	Resist 21.6 in (55 cm) water for 5 hours before and after aging	Pass
2. Water Penetration Resistance after Cyclic Wind Loading	ASTM E 1233 / ASTM E 331	No water at exterior plane of sheathing after 10 cycles @ 80% design load and 75 minutes water spray at 6.24 psf (299 Pa) differential	No water penetration on Plywood, OSB, and Glass Mat Faced Gypsum sheathings
3. Water Resistance Testing	ASTM D 2247	Absence of deleterious effects after 14 day exposure	No deleterious effects
4. Water Vapor Transmission	ASTM E 96 Method B (Water Method)	Measure	17.3 perms [994 ng/(Pa·s·m <sup>2</sup> )]
5. Air Leakage	ASTM E 283	<0.06 cfm/ft <sup>2</sup> (0.00030m <sup>3</sup> /s•m <sup>2</sup> )	<0.0044 cfm/ft <sup>2</sup> (0.000022 m <sup>3</sup> /s•m <sup>2</sup> )
6. Structural Integrity	ASTM E 330	2-inches (51 mm) H <sub>2</sub> O pressure (positive & negative) for 1 hour.	Pass
7. Dry Tensile Strength	ASTM D 882	20 lbs/in (3503 N/m), minimum before and after aging	159 lbs/in (27845 N/m) before aging 213 lbs/in (37302 N/m) after aging
8. Pliability	ASTM D 522	No Cracking or Delamination using 1/8" (3 mm) mandrel at 14°F (-10°C) before and after aging	Pass
9. Surface Burning	ASTM E 84	Flame Spread 0 – 25 for NFPA Class A, UBC Class I	Flame Spread: 5 Smoke Density: 10
10. Tensile Adhesion	ASTM C 297	>15 psi (103 kPa)	>30 psi (207 kPa) to Plywood, OSB, Glass Mat Faced Gypsum sheathings

Table 2—EIFS Weather Resistance and Durability Performance

TEST	METHOD	CRITERIA	RESULTS
1. Accelerated Weathering	ASTM G 153 (Formerly ASTM G 23)	No deleterious effects* at 2000 hours when viewed under 5x magnification	Pass @ 2000
2. Accelerated Weathering	ASTM G 154 (Formerly ASTM G 53)	No deleterious effects* at 2000 hours when viewed under 5x magnification	Pass @ 4000 hours
3. Freeze/Thaw Resistance	ASTM E 2485	No deleterious effects* at 10 cycles when viewed under 5x magnification	Pass @ 90 cycles
4. Water Penetration	ASTM E 331 (modified per ICC-ES AC 235)	No water penetration beyond the plane of the base coat/EPS board interface after 15 minutes at 6.24 psf (299 Pa) or 20% of design wind pressure, whichever is greater	Pass at 12.0 psf (575 Pa) after 30 minutes
5. Drainage Efficiency	ASTM E 2273	90% minimum	> 99%
6. Tensile Adhesion	ASTM E 2134	Minimum 15 psi (103kPa) tensile strength	Pass
7. Water Resistance	ASTM D 2247	No deleterious effects* at 14 day exposure	Pass @ 28 days
8. Salt Spray	ASTM B 117	No deleterious effects* at 300 hours	Pass @ 500 hrs
9. Abrasion Resistance	ASTM D 968	No cracking or loss of film integrity at 528 quarts (500 L) of sand	Pass @ 1057 quarts (1000 L)*
10. Mildew Resistance	ASTM D 3273	No growth supported during 28 day exposure period	Pass @ 42 days
11. Impact Resistance	ASTM E 2486	Level 1: 25-49 in-lbs (2.83-5.54J)  Level 2: 50-89 in-lbs (5.65-10.1J)  Level 3: 90-150 in-lbs (10.2-17J)  Level 4: >150 in-lbs (>17J)	Pass with one layer Mesh  Pass with two layers Mesh  Pass with one layer Intermediate Mesh  Pass with one layer Armor Mat and one layer Mesh

\*No deleterious effects: no cracking, checking, crazing, erosion, rusting, blistering, peeling or delamination.

Table 4—EIFS Component Performance

TEST	METHOD	CRITERIA	RESULT
1. Alkali Resistance of Reinforcing Mesh	ASTM E 2098	Greater than 120 pli (21 dN/cm) retained tensile strength	Pass
2. Requirements for Rigid PVC Accessories	ASTM D 1784	Meets cell classification 13244C	Pass

**PART 2 PRODUCTS**

**2.1 MANUFACTURERS**

- A. Provide EIF System and accessories from single source manufacturer or approved supplier.
- B. The following are acceptable manufacturers:
  - 1. Sto Corp.--Air/Moisture Barrier, EIF System
  - 2. Dryvit Systems, Inc.
  - 3. BASF
  - 4. Synergy
  - 5. Parax USA

**2.2 ADHESIVE**

- A. Cementitious.

**2.3 INSULATION BOARD**

- A. Nominal 1.0 lb/ft<sup>3</sup> (16 kg/m<sup>3</sup>) Expanded Polystyrene (EPS) insulation board in compliance with ASTM E 2430 and ASTM C 578 Type I requirements.

**1.1 MATERIALS**

- A. Stolit – high performance decorative and protective acrylic-based textured wall finish with integral color, complies with SCAQMD Rule 1113 for architectural finishes
- B. Sto Signature Finishes – Stolit acrylic based textured wall finish applied over Sto Crack Defense with specialized techniques to achieve unique textures, impressions or effects.
- C. Primer: StoPrime Sand – acrylic-based sanded primer, complies with SCAQMD Rule 1113 for primers
- D. Base Coat: 3. Sto Primer/Adhesive-B – one component polymer modified portland cement base coat
- E. Surface Reinforcement: Sto Detail Mesh – nominal 4.2 oz/yd<sup>2</sup> (142 g/m<sup>2</sup>) glass fiber reinforcing mesh treated for compatibility with Sto materials.

**2.4 BASE COAT**

- A. Cementitious Base Coats

2.5 REINFORCING MESHES

- A. High Impact Mesh

2.6 PRIMER

- A. Primer Sand—acrylic based tintable primer with sand for roller application.

2.7 FINISH COAT

- A. Textured wall coating as selected by Architect.

2.8 JOB MIXED INGREDIENTS

- A. Water--Clean and potable.
- B. Portland cement--Type I, Type II, or Type I-II in conformance with ASTM C 150.

2.9 ACCESSORIES

- A. Starter Track— Rigid PVC (polyvinyl chloride) plastic track.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect surfaces for:
  - 1. Contamination—algae, chalkiness, dirt, dust, efflorescence, form oil, fungus, grease, laitance, mildew or other foreign substances.
  - 2. Surface absorption and chalkiness.
  - 3. Cracks—measure crack width and record location of cracks.
  - 4. Damage and deterioration.
  - 5. Moisture content and moisture damage—use a moisture meter to determine if the surface is dry enough to receive the EIFS and record any areas of moisture damage.
  - 6. Compliance with specification tolerances—record areas that are out of tolerance (greater than ¼ inch in 8-0 feet [6mm in 2438 mm] deviation in plane).
- B. Inspect sheathing application for compliance with applicable requirement:
  - 1. Glass Mat Faced gypsum sheathing compliant with ASTM C 1177.
- C. Report deviations from the requirements of project specifications or other conditions that might adversely affect the Air/Moisture Barrier and EIFS installation. Do not start work until deviations are corrected.

3.2 SURFACE PREPARATION

- A. Remove surface contaminants on concrete and concrete masonry surfaces.
- B. Apply conditioner by roller to chalking or excessively absorptive surfaces.
- C. Replace weather-damaged sheathing and insulation and repair damaged or cracked surfaces.
- D. Level surfaces to comply with required tolerances.
- E. Repair cracks, spalls or damage in concrete or concrete masonry surfaces.



### 3.3 INSTALLATION

- A. Mixing: 1. Mix products in accordance with published literature. Refer to applicable Product Bulletins for specific information on use, handling, application, precautions, and limitations of specific products.
- B. Application:
1. Install corrosion proof termination accessories per ASTM D1784 (PVC) with perforated flanges for keying of the base coat at junctures with penetrations such as soffit vents, electrical fixtures, and with abutting walls and columns. Install corrosion proof control joints per ASTM D1784 (PVC) with perforated flanges for keying of the base coat at intervals as required by the soffit board manufacturer. Refer to manufacturer's details.
  2. Reinforce perforated flanges of accessories with minimum 4 inch (102 mm) wide strips of mesh embedded in base coat. Tape joints with minimum 4 inch (1023 mm) wide mesh embedded in base coat. Allow base coat to dry.
  3. Install nominal 1/8-inch (3 mm) base coat by trowel to the board surface. Work horizontally or vertically in strips of 40 inches (1016 mm), and immediately embed the Mesh into the wet base coat by troweling from the center to the edge of the mesh. Overlap mesh installed at perforated accessory flanges by installing mesh up to the termination bead of the accessory. Overlap mesh not less than 2-½ inches (64 mm) at mesh seams and feather at seams. Double wrap all inside and outside corners with minimum 8-inch (203 mm) overlap in each direction (except where corner bead is used at outside corners lap mesh over perforated flange of accessory). Avoid wrinkles in the mesh. The mesh must be fully embedded so that no mesh color shows through the base coat when it is dry. Re-skim with additional base coat if mesh color is visible. Do not install base coat and mesh onto solid (unperforated) portions of accessories.
  4. When the base coat application is dry apply the primer by brush or roller to the entire base coat surface.
  5. Textured Finish Application - when the primer application is dry apply the textured finish by trowel. Apply finish in a continuous application, and work to a wet edge. Float the finish to achieve the desired texture.
  6. Finish Application – Refer to manufacturer's Application Guide
- C. Protection
1. Provide protection of installed materials from water infiltration into or behind them during and after construction.
  2. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry.
  3. Seal penetrations through the finished surface with backer rod and sealant or other appropriate means.
- D. Starter Track:
- Strike a level line at the base of the wall to mark where the top of the starter track terminates.
1. Attach the starter track even with the line into the structure a maximum of 16 inches (406 mm) on center with the proper fastener: Type S-12 corrosion resistant screws for steel framing with minimum 3/8 inch (9 mm) penetration. Attach between studs into blocking as needed to secure the track flat against the wall surface. For solid wood sheathing or concrete/masonry surfaces, attach directly at 12 inches (305 mm) on center maximum.
  2. Butt sections of starter track together. Miter cut outside corners and abut. Snip front flange of one inside corner piece (to allow EPS Board to be seated inside of track) and abut.

- A. Backwrapping:
1. Apply a strip of detail mesh to the dry air/moisture barrier at all system terminations (windows, doors, expansion joints, etc.) except where the Starter Track is installed. The mesh must be wide enough to adhere approximately 4 inches (100 mm) of mesh onto the wall, be able to wrap around the insulation board edge and cover a minimum of 2 ½ inches (64 mm) on the outside surface of the insulation board. Adhere mesh strips to the air/moisture barrier and allow them to dangle until the backwrap procedure is completed. Alternatively, pre-wrap terminating edges of insulation board.
- B. Adhesive Application and Installation of Insulation Board:
1. Rasp the interior lower face of insulation boards to provide a snug friction fit into the Starter Track. Apply adhesive to the back of the insulation board with the proper size stainless steel notched trowel. Apply uniform ribbons of adhesive parallel with the SHORT dimension of the board so that when boards are placed on the wall the ribbons will be VERTICAL. Apply adhesive uniformly so ribbons of adhesive do not converge.
  2. Immediately place insulation boards in a running bond pattern on the wall with the long dimension horizontal. Start by inserting the lower edge of the boards inside the starter track at the base of the wall until they contact the bottom of the track. Apply firm pressure over the entire surface of the boards to ensure uniform contact of adhesive. Bridge sheathing joints by a minimum of 6 inches (152 mm). Interlock inside and outside corners.
  3. Butt all board joints tightly together to eliminate any thermal breaks in the EIFS. Care must be taken to prevent any adhesive from getting between the joints of the boards.
- C. Completion of Backwrapping:
1. Complete the backwrapping procedure by applying base coat to exposed edges of insulation board and approximately 4 inches (100 mm) onto the face of the insulation board. Pull mesh tight around the board and embed it in the base coat with a stainless steel trowel. Use a corner trowel for clean, straight lines. Smooth any wrinkles or gaps in the mesh.
- D. Base Coat and Reinforcing Mesh Application:
1. Apply minimum 9x12 inch (225x300 mm) diagonal strips of detail mesh at corners of windows, doors, and all penetrations through the system. Embed the strips in wet base coat and trowel from the center to the edges of the mesh to avoid wrinkles.
  2. Apply detail mesh at trim, reveals and projecting architectural features. Embed the mesh in the wet base coat. Trowel from the base of reveals to the edges of the mesh.
  3. Ultra-High impact mesh application (to a minimum height of 6'-0" [1.8 m] above finished grade at all areas accessible to pedestrian traffic and other areas exposed to abnormal stress or impact): apply base coat over the insulation board with a stainless steel trowel to a uniform thickness of approximately 1/8 inch (3 mm). Work horizontally or vertically in strips of 40 inches (1016 mm), and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Butt the mesh at seams. Allow the base coat to dry.

4. Standard mesh application: Apply base coat over the insulation board, including areas with Ultra-High impact mesh, with spray equipment or a stainless steel trowel to a uniform thickness of approximately  $\frac{1}{8}$  inch (3 mm). Work horizontally or vertically in strips of 40 inches (1016mm), and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Overlap mesh not less than 2- $\frac{1}{2}$  inches (64 mm) at mesh seams and at overlaps of detail mesh. Feather seams and edges. Double wrap all inside and outside corners with minimum 2- $\frac{1}{2}$  inch (64 mm) overlap in each direction. Avoid wrinkles in the mesh. The mesh must be fully embedded so that no mesh color shows through the base coat when it is dry. Re-skim with additional base coat if mesh color is visible.
  5. Allow base coat to thoroughly dry before applying primer or finish.
- E. Primer application
1. Apply primer evenly with brush or roller over the clean, dry base coat and allow to dry thoroughly before applying finish.
- F. Finish Coat Application
1. Apply finish directly over the base coat or primed base coat when dry. Apply finish by spraying or troweling with a stainless-steel trowel, depending on the finish specified. Follow these general rules for application of finish:
    - a. Avoid application in direct sunlight.
    - b. Apply finish in a continuous application, and work to an architectural break in the wall.
    - c. Weather conditions affect application and drying time. Hot or dry conditions limit working time and accelerate drying. Adjustments in the scheduling of work may be required to achieve desired results; cool or damp conditions extend working time and retard drying and may require added measures of protection against wind, dust, dirt, rain and freezing. Adjust work schedule and provide protection.
    - d. Do not install separate batches of finish side-by-side.
    - e. Do not apply finish into or over sealant joints. Do not apply finish over irregular or unprepared surfaces, or surfaces not in compliance with the requirements of the project specifications.

### 3.4 PROTECTION

- A. Provide protection of installed materials from water infiltration into or behind them.
  - B. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry.
- E. CLEANING, REPAIR AND MAINTENANCE
- A. Clean and maintain the Exterior Insulation and Finish System (EIFS) for a fresh appearance and to prevent water entry into and behind the system. Repair cracks, impact damage, spalls or delamination promptly.
  - B. Maintain adjacent components of construction such as sealants, windows, doors, and flashing, to prevent water entry into the wall assembly.

END OF SECTION



DOCUMENT 07 25 00  
WEATHER BARRIERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Vapor Retarders: Materials to make exterior walls, joints between exterior walls and roof, and joints around frames of openings in exterior walls water vapor resistant and air tight.
- B. Air Barriers: Materials that form a system to stop passage of air through exterior walls, joints between exterior walls and roof, joints around frames of openings in exterior walls, and locations where structural steel penetrates exterior back-up walls.

1.2 RELATED REQUIREMENTS

- A. Section 03 30 00 - Cast-in-Place Concrete: Vapor retarder under concrete slabs on grade.
- B. Section 05 40 00 - Cold-Formed Metal Framing: Water-resistive barrier under exterior cladding.
- C. 07 24 00 – Exterior Insulation Finish Systems.
- D. Section 07 46 25 – Siding and Trim
- E. Section 07 90 05 - Joint Sealants: Sealing building expansion joints.
- F. Section 09 21 16 - Gypsum Board Assemblies: Water-resistive barrier under exterior cladding.

1.3 DEFINITIONS

- A. Weather Barrier: Assemblies that form either water-resistive barriers, air barriers, or vapor retarders.
- B. Air Barrier: Air tight barrier made of material that is relatively air impermeable but water vapor permeable, both to the degree specified, with sealed seams and with sealed joints to adjacent surfaces. Note: For the purposes of this specification, vapor impermeable air barriers are classified as vapor retarders.
- C. Vapor Retarder: Air tight barrier made of material that is relatively water vapor impermeable, to the degree specified, with sealed seams and with sealed joints to adjacent surfaces.
  - 1. Water Vapor Permeance: For purposes of conversion,  $57.2 \text{ ng}/(\text{Pa s sq m}) = 1 \text{ perm}$ .
- D. Water-Resistive Barrier: Water-shedding barrier made of material that is moisture resistant, to the degree specified, intended to be installed to shed water without sealed seams.

1.4 REFERENCE STANDARDS

- A. AATCC Test Method 127 - Water Resistance: Hydrostatic Pressure Test; 2014.
- B. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2009.

- C. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2013.
- D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- E. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2014.
- F. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2011.
- G. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials; 2013.

#### 1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on material characteristics.
- C. Manufacturer's Installation Instructions: Indicate preparation.

#### 1.6 FIELD CONDITIONS

- A. Maintain temperature and humidity recommended by the materials manufacturers before, during and after installation.

### PART 2 PRODUCTS

#### 2.1 WEATHER BARRIER ASSEMBLIES

- A. Air Barrier:
  - 1. On outside surface of sheathing of exterior walls use air barrier coating.
- B. Interior Vapor Retarder:
  - 1. On inside face of studs of exterior walls, under cladding, use mechanically fastened vapor retarder sheet.
- C. Exterior Vapor Retarder:
  - 1. On under side of concrete slabs and elevated floors over enclosed soffit space use vapor retarder sheet.

#### 2.2 AIR BARRIER MATERIALS (WATER VAPOR PERMEABLE AND WATER-RESISTIVE)

- A. Air Barrier Sheet, Mechanically Fastened:
  - 1. Air Permeance: 0.004 cubic feet per minute per square foot, maximum, when tested in accordance with ASTM E2178.
  - 2. Water Vapor Permeance: 5 perms, minimum, when tested in accordance with ASTM E96/E96M Procedure A (desiccant procedure).
  - 3. Air Permeance: 0.004 cubic feet per square foot, maximum, when tested in accordance with ASTM E2178.
  - 4. Water Penetration Resistance: Withstand a water head of 21 inches, minimum, for minimum of 5 hours, when tested in accordance with AATCC 127.

5. Ultraviolet and Weathering Resistance: Approved in writing by manufacturer for minimum of 6 months weather exposure.
6. Surface Burning Characteristics: Flame spread index of 25 or less, and smoke developed index of 50 or less, when tested in accordance with ASTM E84.
7. Seam and Perimeter Tape: Polyethylene self adhering type, mesh reinforced, 2 inches wide, compatible with sheet material; unless otherwise specified.
8. Products:
  - a. DuPont Company; Tyvek CommercialWrap: [www.dupont.com](http://www.dupont.com).
  - b. Fiberweb, Inc; Typar MetroWrap: [www.typar.com](http://www.typar.com).
  - c. VaproShield, LLC; WrapShield: [www.vaproshield.com](http://www.vaproshield.com).
  - d. Substitutions: See Section 01 60 00 - Product Requirements.

### 2.3 VAPOR RETARDER MATERIALS (AIR BARRIER AND WATER-RESISTIVE)

- A. Vapor Retarder Sheet – Below Slab Locations: Multi-layer, fabric-, cord-, grid-, or aluminum-reinforced polyethylene or equivalent, complying with ASTM E1745, Class A; stated by manufacturer as suitable for application indicated. Single ply polyethylene is prohibited.
  1. Water Vapor Permeance: 0.1 perm, maximum, when tested in accordance with ASTM E96/E96M.
  2. Seam and Perimeter Tape: Polyethylene self adhering type, mesh reinforced, 2 inches wide, compatible with sheet material.
  3. Products:
    - a. Stego Industries llc. Model - Stego Wrap 15 (15 mil).
    - b. Insulation Solutions, Inc. Model - Viper VaporCheck 16 (16mil).
    - c. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Vapor Retarder Sheet Type 2 - Above Slab Locations: Multi-layer, fabric-, cord-, grid-, or aluminum-reinforced polyethylene or equivalent, complying with ASTM E 1745, Class B; stated by manufacturer as suitable for application indicated. Single ply polyethylene is prohibited
  1. Acceptable Products:
    - a. Stego Industries llc. Model - Stego Wrap 10 (10 mil)
    - b. Insulation Solutions, Inc. Model - Viper VaporCheck 10 (10 mil)
    - c. Substitutions: See Section 01 60 00 Product Requirements.

### 2.4 ACCESSORIES

- A. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement is waived if not installed on a roof.
- B. Thinners and Cleaners: As recommended by material manufacturer.
- C. Repair Tape: Polyethylene self-adhering type, 2 inch wide, compatible with sheet material.
- D. Mastic Tape: Double sided, asphaltic, pressure sensitive mastic tape compatible with sheet material.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that surfaces and conditions are ready to accept the work of this section.

### 3.2 PREPARATION

- A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.
- B. Clean and prime substrate surfaces to receive adhesives in accordance with manufacturer's instructions.

### 3.3 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions.
- B. Air Barriers: Install continuous air tight barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.
- C. Vapor Retarders: Install continuous air tight barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.
- D. Vapor Retarder For Stud Framed Walls: Secure sheet retarder Type 2 to stud faces with adhesive. Lap edges over stud faces, lap ends onto adjacent construction; calk ends with sealant to ensure complete seal.
- E. Vapor Retarder For Wall/Roof Junction: Lap sheet retarder Type 2 from wall retarder onto roof vapor retarder continuously. Seal edges and ends with sealant adhesive. Caulk with Type sealant to ensure complete seal. Position laps over firm bearing.
- F. Vapor Retarder Seal For Openings: Install sheet retarder Type 2 between window and door frames and adjacent vapor retarder and seal with sealant. Caulk with sealant to ensure complete seal. Position laps over firm bearing.
- G. Under Slab Vapor Retarder (sheet retarder type 1):
  - 1. Installation shall be in accordance with manufacturer's instructions and ASTM E1643.
  - 2. Unroll Vapor Barrier with the longest dimension parallel with the direction of the pour.
  - 3. Lap Vapor Barrier over footings and seal to foundation walls.
  - 4. Overlap joints 6 inches and seal with manufacturer's tape.
  - 5. Seal all penetrations (including pipes) with pipe boot and tape.
  - 6. No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities. Seal all penetrations.
  - 7. Repair damaged areas by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all four sides with tape.
- H. Apply sealants and adhesives within recommended application temperature ranges. Consult manufacturer if temperature is out of this range.
- I. Mechanically Fastened Sheets - On Exterior:
  - 1. Install sheets shingle-fashion to shed water, with seams generally horizontal.
  - 2. Overlap seams as recommended by manufacturer but at least 6 inches.
  - 3. Overlap at outside and inside corners as recommended by manufacturer but at least 12 inches.
  - 4. Attach to framed construction with fasteners extending through sheathing into framing. Space fasteners at 12 to 18 inches on center along each framing member supporting sheathing.
  - 5. For applications specified to be air tight, seal seams, laps, penetrations, tears, and cuts with self-adhesive tape; use only large-headed, gasketed fasteners recommended by the manufacturer.



6. Where stud framing rests on concrete or masonry, extend lower edge of sheet at least 4 inches below bottom of framing and seal to foundation with sealant.
7. Install water-resistive barrier over jamb flashings.
8. Install air barrier and vapor retarder UNDER jamb flashings.
9. At openings to be filled with frames having nailing flanges, wrap excess sheet into opening; at head, seal sheet over flange and flashing.

J. Mechanically Fastened Sheets - Vapor Retarder On Interior:

1. When insulation is to be installed in assembly, install vapor retarder over insulation.
2. Seal seams, laps, perimeter edges, penetrations, tears, and cuts with self-adhesive tape, making air tight seal.
3. Locate laps at a framing member; at laps fasten one sheet to framing member then tape overlapping sheet to first sheet.
4. Seal entire perimeter to structure, window and door frames, and other penetrations.
5. Where conduit, pipes, wires, ducts, outlet boxes, and other items are installed in insulation cavity, pass vapor retarder sheet behind item but over insulation and maintain air tight seal.

K. Self-Adhesive Sheets:

1. Prepare substrate in manner recommended by sheet manufacturer; fill and tape joints in substrate and between dissimilar materials.
2. Lap sheets shingle-fashion to shed water and seal laps air tight.
3. Once sheets are in place, press firmly into substrate with resilient hand roller; ensure that all laps are firmly adhered with no gaps or fishmouths.
4. Use same material, or other material approved by sheet manufacturer for the purpose, to seal to adjacent construction and as flashing.
5. At wide joints, provide extra flexible membrane allowing joint movement.

L. Openings and Penetrations in Exterior Weather Barriers:

1. Install flashing over sills, covering entire sill frame member, extending at least 5 inches onto weather barrier and at least 6 inches up jambs; mechanically fasten stretched edges.
2. At openings to be filled with frames having nailing flanges, seal head and jamb flanges using a continuous bead of sealant compressed by flange and cover flanges with at least 4 inches wide; do not seal sill flange.
3. At openings to be filled with non-flanged frames, seal weather barrier to all sides of opening framing, using flashing at least 9 inches wide, covering entire depth of framing.
4. At head of openings, install flashing under weather barrier extending at least 2 inches beyond face of jambs; seal weather barrier to flashing.
5. At interior face of openings, seal gap between window/door frame and rough framing, using joint sealant over backer rod.
6. Service and Other Penetrations: Form flashing around penetrating item and seal to weather barrier surface.

### 3.4 FIELD QUALITY CONTROL

- A. Do not cover installed weather barriers until required inspections have been completed.

### 3.5 PROTECTION

- A. Do not leave materials exposed to weather longer than recommended by manufacturer.
- B. Do not leave paper- or felt-based barriers exposed to weather for longer than one week.

END OF SECTION



SECTION 07 31 13  
ASPHALT SHINGLES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Roof shingles and accessories including the following:
  - 1. Fiberglass-based asphalt shingles.
  - 2. Hip and ridge shingles.
  - 3. Starter shingles.
  - 4. Self-adhering ice and water barrier.
  - 5. Shingle underlayment.
  - 6. Fasteners.
  - 7. Metal flashing and trim.

1.2 RELATED SECTIONS

- A. Section 06 10 00 - Rough Carpentry.
- B. Section 06 15 00 – Wood Decking.
- C. Section 06 17 53 – Shop Fabricated Wood Trusses.
- D. Section 06 18 00 – Glued Laminated Wood Decking.

1.3 REFERENCES

- A. ASTM International (ASTM):
  - 1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - 2. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
  - 3. ASTM D228 - Standard Test Method for Sampling, Testing, and Analysis of Asphalt Roll Roofing, Cap Sheets, and Shingles Used in Roofing and Waterproofing.
  - 4. ASTM D3018 - Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules.
  - 5. ASTM D3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method).
  - 6. ASTM D3462 - Standard Specification for Asphalt Shingles Made from Glass felt and Surfaced with Mineral Granules.
  - 7. ASTM D6381 - Standard Test Method for Measurement of Asphalt Shingle Mechanical Uplift Resistance.
  - 8. ASTM D7158 - Standard Test Method for Wind Resistance of Sealed Asphalt Shingles (Uplift Force/Uplift Resistance Method).
  - 9. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings.
  - 10. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.
- B. International Code Council (ICC):
  - 1. International Residential Code (IRC).
  - 2. International Building Code (IBC).
  - 3. ICC-ES Evaluation Reports.
  - 4. ICC-ES Acceptance Criteria.
- C. Underwriters Laboratories (UL):
  - 1. UL 790 - Standard Test Methods for Fire Test of Roof Coverings.
  - 2. UL 997 – Wind Resistance of Prepared Roof Covering Materials.
  - 3. UL 2218 - Impact Resistance of Prepared Roof Covering Materials.
  - 4. UL 2390 - Test Method for Wind Resistant Asphalt Shingles with Sealed Tabs.

- D. Underwriters Laboratories Evaluation Services (UL-ES):
  - 1. UL-ES Evaluation Reports.
- E. Environmental Protection Agency (EPA): ENERGY STAR Rating System.

#### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets and detail drawings for each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Product literature.
  - 4. Installation methods.
- C. Selection Samples: Provide one complete set of samples, representing manufacturer's full range of available products and colors.
- D. Verification Samples: For each product and finish specified, two full size samples representing actual products and colors.
- E. Copy of Warranty: Provide warranty meeting specified requirements. Provide executed warranty document at project closeout.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing shingle roofing products with a minimum of ten years documented experience.
- B. All roofing products shall be compatible with the remainder of roofing products and approved by roofing manufacturer providing roof warranty.
- C. Installer Qualifications:
  - 1. Company specializing in performing the type of work specified with minimum five years documented experience.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's unopened bundles with labels intact and legible.
- B. Store all products in manufacturer's unopened, labeled packaging until they are ready for installation.
- C. Handle and store materials on site to prevent damage. Store products in a covered, ventilated area, at temperature not more than 110 degrees Fahrenheit (43 degrees Celsius); do not store near steam pipes, radiators, or in direct sunlight.
- D. Store bundles on a flat surface. Do not stack product more than 2 pallets high. If stacking 2 pallets high, use separator boards to protect the shingles below.
- E. Do not install shingles on wet surfaces.
- F. Store and dispose of solvent-based materials in accordance with all federal, state and local regulations.
- G. For rooftop loading, lay shingle bundles flat. Do not bend over the ridge.

#### 1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install systems under environmental conditions outside manufacturer's recommended limits.
  - 1. Proceed with work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturer's recommendations.

## 1.8 WARRANTY

- A. Manufacturer's Extended Warranty: Provide to the Owner manufacturer's standard extended warranty coverage labor and materials in the event of a material defect. Refer to actual warranty for complete details, limitations and requirements.
  - 1. System Protection Roofing Limited Warranty includes up to 25 years of non-prorated coverage on installed roofing system products and labor.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 2. Owens Corning.
  - 3. Certainteed.
  - 4. Gaff Roofing.
  - 5. Tamko Building Products.

### 2.2 ROOF SHINGLES

- A. Berkshire® (Algae Resistant) Shingles: As manufactured by Owens Corning Roofing and Asphalt, LLC.
  - 1. Nominal Size: 18-3/4 in (476 mm) by 38 in (965 mm).
  - 2. Exposure: 8-3/8 in. (213 mm).
  - 3. Shingles per Square: 45.
  - 4. Bundles per Square: 5 bundles of 9 shingles.
  - 5. Coverage per Square: 99.5 sq ft (9.2 sq m).
  - 6. Color: As selected from manufacturer's full range.
  - 7. Standards/Qualifications: ASTM D228, ASTM D3018 (Type 1), ASTM D3161 (Class F Wind Resistance), ASTM D3462, ASTM D7158 (Class H Wind Resistance), ASTM E108/UL 790 (Class A Fire Resistance), ICC-ES AC438, UL ER2453-01, Florida Product Approval (FL10674), and Miami-Dade County Product Approval (10-0817.09).

### 2.3 HIP AND RIDGE SHINGLES

- A. Weave hip and ridge shingles with field shingles to form water tight lap and seal.
- B. Provide hip and ridge shingles color formulated to complement field of roof.

### 2.4 STARTER SHINGLES

- A. Starter Strip Shingle: Utilize starter strip shingle from same manufacturer as field shingle.
- B. Provide solid, continuous starter shingle, without tabs, equal to exposure of field shingle to provide continuous protection.

### 2.5 SELF-ADHERING ICE AND WATER BARRIER

- A. WeatherLock Mat as manufactured by Owens Corning Roofing and Asphalt, LLC or equal.
  - 1. Mat-faced skid resistant surface, self-adhering, self-sealing, bituminous ice and water barrier.
  - 2. Roll Width: 36 in (914 mm).
  - 3. Selvage: 3 in (76 mm).
  - 4. Standards/Qualifications: ASTM D1970, ASTM E108/UL 790 (Class A Fire Resistance), ICC-ESR 1783, CCMC 13403-R, Florida Product Approval (FL9777), and Miami-Dade County Product Approval (12-1114.01).

### 2.6 ATTIC VENTILATION

- A. VentSure® Low Profile Slant Back Roof Vent with Exterior Louver.

1. Rooftop mounted, low-profile, slant back metal exhaust ventilator designed to evacuate hot and/or moisture-laden air from attics.
2. Each vent provides 72 sq in (46500 sq mm) NFVA.
3. Galvanized steel available in Black, White Brown, Light Grey, Dark Gray, or Mill finish.
4. 32 in (813 mm) by 23 in (584 mm) base, 11 in (279 mm) by 11 in (279 mm) opening. Available with extended flange 36 in (914 mm) by 28 in (711 mm).
5. Suitable on roofs with a 3:12 pitch or greater.
6. Standards/Qualifications: Miami-Dade County Product Approval (11-0512.02).

## 2.7 FASTENERS

- A. Fasteners: Galvanized steel, stainless steel, or aluminum nails complying with ASTM F1667, minimum 12 gauge, 0.0808 in (2.05 mm) shank with 3/8 in (9.5 mm) diameter head.
- B. All fasteners must be driven flush with the shingle surface and penetrate at least 3/4 in (19.1 mm) into the wood deck. Where the deck is less than 3/4 in (19.1 mm) thick, the fastener should be long enough to penetrate fully and extend through roof sheathing.

## 2.8 METAL FLASHING

- A. Flashing: Provide flashing as specified by Section 07 62 00 - Sheet Metal Flashing and Trim.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Prior to starting work, examine all roof decks on which work is to be applied for defects in materials and workmanship which may be detrimental to the proper installation or long-term performance of the shingles.
- B. Underlayment and shingles installed directly over roof insulation or similar type decks is not approved.
- C. Do not begin installation until the roof deck has been properly prepared. Commencement of installation constitutes acceptance of conditions.

### 3.2 PREPARATION

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- B. Verify installed roof deck is acceptable to receive shingles.
- C. Verify that the deck is dry, structurally sound, clean and smooth. It shall be free of any depressions, waves, and projections.
- D. Verify that the deck is structurally sound and free of deteriorated decking.
- E. Clean deck surfaces thoroughly prior to installation of self-sealing ice and water barrier and underlayment.
- F. Penetrations
  1. Vent pipes: Install a 24 in (610 mm) square piece of self-adhering ice and water barrier lapping over roof deck underlayment; seal tightly to pipe.
  2. Vertical walls: Install self-adhering ice and water barrier extending at least 3 in to 4 in (76 mm to 102 mm) up the wall and 12 in (305 mm) on to the roof surface.

### 3.3 SHINGLE INSTALLATION

- A. Install shingles in accordance with manufacturer's printed installation instructions.
- B. Install starter course at lowest roof edge and along rake with edge of shingles extending 1/4 in (6.4 mm) over edge of roof.

- C. Install first and successive courses of shingles stepping diagonally up and across roof deck with manufacturer's recommended offset at each succeeding course. Maintain uniform exposure of shingles at each succeeding course.
- D. Fasten shingles to deck with manufacturer's recommended number of roofing nails per shingle, or in accordance with local codes.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION





SECTION 07 31 30

POLYMERIC SHINGLES

GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Synthetic shake shingles, underlayment, flashings, fasteners, and accessories.

1.2 Related Requirements:

- A. Section 06 10 00 - Rough Carpentry.  
B. Section 06 15 00 – Wood Decking.  
C. Section 06 17 53 – Shop Fabricated Wood Trusses.  
D. Section 06 18 00 – Glued Laminated Wood Decking.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM) ([www.astm.org](http://www.astm.org)):
1. D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
  2. D3161/D3161M - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method).
  3. D3462/D3462M - Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.
  4. E108 - Standard Test Methods for Fire Tests of Roof Coverings.
  5. G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- B. Underwriters Laboratories (UL) ([www.ul.com](http://www.ul.com)):
1. 790 - Standard for Standard Test Methods for Fire Tests of Roof Coverings.
  2. 2218 - Standard for Impact Resistance of Prepared Roof Covering Materials.
- C. International Code Council (ICC) ([www.iccsafe.org](http://www.iccsafe.org)) - ES Acceptance Criteria AC07 Section 4.9.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference:
1. Convene at Project site 2 weeks prior to beginning work of this Section.
  2. Attendance: Architect, Contractor, installer, and related trades.
  3. Review and discuss:
    - a. Installation procedures and manufacturer's recommendations.
    - b. Safety procedures.
    - c. Coordination with installation of other work.
    - d. Availability of materials.
    - e. Preparation and approval of substrate and penetrations through roof.
    - f. Other items related to successful execution of work.

1.5 SUBMITTALS

- A. Submittals:
1. Product Data: Manufacturer's data sheets on each product including:
    - a. Shingles, underlayment, flashings, fasteners, and accessories:

- 1) Indicate composition, properties, and dimensions.
- 2) Show compliance with specified requirements.
- b. Preparation instructions and recommendations.
- c. Storage and handling requirements and recommendations.
- d. Installation methods.
2. Samples:
  - a. Selection Samples: One set of color chips representing manufacturer's full range of available colors and surface textures.
  - b. Verification Samples: After selection, submit two samples representing actual product, size, color, and texture.
- B. Installation Instructions: Provide manufacturer's installation instructions.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacture of synthetic shingles.
- B. Installer Qualifications: Minimum 3 years experience in work of this Section.

## 1.7 DELIVERY, STORAGE AND HANDLING

- A. Ship shingles in bundles:
  1. Collate in sequence of widths and colors as required for selected color blend.
  2. Assemble bundles so that sorting at job site is not required.
- B. Deliver shingles to site in manufacturer's unopened, labeled bundles.
  1. Verify quantities and condition upon delivery.
  2. Remove damaged products from site.
- C. Store products in protected environment, off ground, protected moisture, traffic, and construction activities.
- D. Store shingles flat. Do not store on site for prolonged period.
- E. Store products at temperature between 40 and 120 degrees F (4 degrees C and 49 degrees C).
- F. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of authorities having jurisdiction.

## 1.8 SITE CONDITIONS

- A. Environmental Requirements:
  1. Observe manufacturer's temperature, humidity, and moisture limits.
  2. Do not install products under environmental conditions outside manufacturer's absolute limits.

## 1.9 WARRANTIES

- A. Furnish manufacturer's 50 years warranty against breakage and deterioration resulting in leaks under normal weather and use conditions.
- B. Furnish installer's 2 years total roof system warranty against water penetration, including underlayment, flashings, trim, and other roof components.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: DaVinci Roofscapes, LLC, 800-DAVINCI, [www.davinciroofscapes.com](http://www.davinciroofscapes.com).
- B. GAF.
- C. Honest Abe Roofing.
- D. Malarky Roofing Products.
- E. Substitutions: Refer to Division 01.

### 2.2 MATERIALS

- A. Performance Requirements:
  - 1. Roof system: Manufactured synthetic shingles attached to structural substrate to form weather tight roof envelope with no water penetration.
  - 2. Method of attachments designed to adequately resist wind uplift for roof configuration and Project location.
- B. Synthetic Shake Shingles:
  - 1. Description: Lightweight, synthetic shake shingles with appearance, color, texture, and thickness of natural wood shakes.
  - 2. Product: Multi-Width Shake by DaVinci Roofscapes, LLC.
  - 3. Material: Engineered polymer formulated from 100 percent virgin plastic resins; recycled materials not acceptable.
  - 4. Performance characteristics:
    - a. Water absorption: 0.18 percent by weight, tested to ASTM D471.
    - b. Impact resistance: Class 4, tested to UL 2218.
    - c. Nail pull through resistance: 138 foot-pounds at 72 degree F (187 joules at 22 degrees C) and 166 foot-pounds at 32 degrees F (225 joules at 0 degrees C), tested to ASTM D3462/D3462M.
    - d. Freeze-thaw resistance: No crazing, cracking, delamination of coating, or other deleterious surface changes after one month exposure with temperature cycled from minus 40 to plus 180 degrees F (0 degrees to 82 degrees C) in 22 hours, tested to ICC ES Acceptance Criteria AC07 Section 4.9.
    - e. Accelerated weathering: Little change after 2,500 hours exposure to ultraviolet radiation, elevated temperature, moisture, and thermal shock.
    - f. Fungus resistance: No algae growth when inoculated with blue green algae in warm, damp environment for 4 to 6 weeks, tested to ASTM G21.
    - g. Approved by NRCC CCMC.
  - 5. Installed weight:
    - a. 9 inch (229 mm) exposure: 342 pounds per 100 square feet (16.5 kg/sq. m).
    - b. 10 inch (254 mm) exposure: 304 pounds per 100 square feet (15 kg/sq. m).
  - 6. Profile:
    - a. Rectangular shape with exposed-to-view upper surface and edges textured to resemble natural wood shake.
    - b. Underside formed with reinforcing ribs.
  - 7. Size:
    - a. Thickness: Varies from 1/4 inch (6 mm) at top to 5/8 inch (16 mm) at bottom.
    - b. Length: 22 inches (559 mm).
    - c. Width: Variable widths of 4, 6, 7, 8, and 9 inches (102, 152, 178, 203, and 229 mm) to create appearance of random sized natural wood shake.

8. Starter shingle: 12 inches (305 mm) long x 12 inches (305 mm) wide.
9. Markings: Form shingles with markings on upper surface to indicate nailing locations and provide alignment guide lines for different exposure lengths.
10. Color:
  - a. Aged Cedar.
  - b. Provide internal ultraviolet stabilizers.
11. Shingle pattern:
  - a. Provide shingles factory blended in multiple colors and widths.
  - b. Blend: Aged Cedar.

## 2.3 ACCESSORIES

- A. Underlayment: ASTM D226/D226M, Type II, No. 30 non-perforated saturated asphalt felt.
- B. Waterproof Sheet Membrane: Cold applied, self-adhering waterproof membrane composed of polyethylene film coated one side with rubberized asphalt adhesive.
  1. Thickness: 40 mils (1 mm).
  2. Low temperature flexibility: Unaffected at minus 32 degrees F (minus 36 degrees C).
  3. Minimum tensile strength: 250 PSI (1724 kPa).
  4. Minimum elongation: 250 percent.
  5. Permeance: Maximum 0.05 perms.
- C. Flashing:
  1. Fabricate from sheet to profiles and dimensions indicated on Drawings and approved Shop Drawings, in accordance with Section 07 62 00, Sheet Metal Flashing and Trim.
  2. Material: 26 gage (0.455 mm) galvanized steel.
  3. Linear components: Form in longest possible lengths, 8 feet (2.5 m) minimum.
  4. Counterflashings: Extend minimum 4 inches (102 mm) up vertical surfaces and minimum 4 inches (102 mm) under shingles.
  5. Valley flashings: Minimum 24 inches (610 mm) wide, extending minimum 10 inches (254 mm) from valley center line.
  6. Eave flashings: Fabricate with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.
- D. Fasteners:
  1. 3/8 inch (9.5 mm) flat head nails, 1-1/2 inches (38 mm) long.
  2. Material: Hot-dipped galvanized steel.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Inspect roof framing and substrate.
  1. Verify that roof is complete, rigid, and braced, and that deck members are securely fastened.
  2. Ensure that proper ventilation has been provided for roof space.
  3. Verify that roof deck is clean, dry, and ready to receive shingles.
  4. Remove dirt, loose fasteners, and protrusions from roof surface.

### 3.2 INSTALLATION - GENERAL

- A. Install self-adhered waterproof sheet membrane on eaves. Cover waterproof sheet membrane and remaining portions of roof with approved underlayment. Install waterproof sheet membrane in valleys, along walls, and around projections terminating on top of underlayment.

- B. Underlayment:
  - 1. Stripping ply: Install full sheet of self-adhered waterproof sheet membrane in valleys, and minimum 18 inch (457 mm) width on gable ends, against walls, and around projections.
  - 2. In areas where January average daily temperature is 25 degrees F (minus 4 degrees C) or lower or where ice buildup is possible, install self-adhered waterproof sheet membrane from bottom edge extending three feet above exterior wall line on eaves, in valleys, and intersection with vertical surfaces.
  - 3. Install waterproof sheet membrane over full roof area.
    - a. Apply waterproof sheet membrane at temperatures of 40 degrees F (4 degrees C) or higher.
    - b. Adhere and attach as recommended by manufacturer of waterproof sheet membrane.
    - c. Start underlayment installation at lower edge of roof. Install perpendicular to roof slope with minimum 4 inch (102 mm) side laps and minimum 6 inch (152 mm) end laps.
    - d. Extend underlayment minimum 4 inches (102 mm) up vertical wall intersections.
    - e. Do not leave underlayment membrane exposed in excess of time limit required by manufacturer. Do not puncture or tear underlayment.
- C. minimum 4 inches (102 mm). Nail in place with roofing nails spaced in accordance with manufacturer's recommendations.

### 3.3 FLASHING INSTALLATION

- A. Install drip edge on eaves, gable ends, and metal flashings at valleys, ridges, hips, roof curbs, penetrations, and intersections with vertical surfaces.
- B. Weather lap joints minimum 2 inches (52 mm) and seal with sealant.
- C. Secure in place with clips, nails, or other fasteners.

### 3.4 SHINGLE INSTALLATION

- A. Install shingles in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Accurately lay out shingles. Ensure that edges are parallel and perpendicular to roof eaves. Lay out work to avoid cutting shingles.
  - 1. At gables and vertical intersections, vary combination of shingle widths and spacing of shingles.
  - 2. If cutting is required, place shingle so that cut edge is not exposed.
  - 3. Use circular saw or straight edge and utility knife if cuts are necessary.
- C. Install shingles in rack or pyramid style from factory assembled bundles.
- D. Exposure: Install shingles in straight pattern with 10 inches (254 mm) exposure and bottom shingle edges evenly aligned.
- E. Spacing: Provide 3/16 to 3/8 inch (4.76 to 9.5 mm) gap between shingles.
- F. Stagger shingle joints in one course minimum 1-1/2 inches (38 mm) from joints in course below.

- G. Eaves: Install row of starter shingles at eaves as base layer. Project eave shingles approximately 1 inch (25 mm) and 1/8 inch (3 mm) past overhanging drip edge, or as required to allow water to drain.
- H. Ridges and Hips: After field shingle installation is complete, install double row of shingles over 6 inches (152 mm) wide metal flashing.
  - 1. Use 6 inch (152 mm) wide shingles with 10 inch (254 mm) exposure or one-piece, 12 inch wide shingle with 10 inch exposure,
  - 2. Ridges: Start ridge shingles at leeward end. Face shingle laps away from prevailing wind.
  - 3. Hips: Start hip course at eave.
- I. Fastening: Attach each shingle to deck with two nails:
  - 1. Place nails at locations indicated on shingles.
  - 2. Ensure full penetration but do not overdrive nails.
  - 3. Do not nail at an angle.
  - 4. Ensure that nail head is flush with shingle surface.
  - 5. At valleys do not nail shingles within 5 inches (127 mm) of valley center line.

### 3.5 FIELD QUALITY CONTROL

- A. Inspect units as they are installed. Do not install cracked, broken, twisted, curled, or otherwise damaged units.
- B. As work progresses, exercise care not to scratch or mar installed shingles. Replace damaged shingles.
- C. After approximately 200 units have been installed, inspect roof from ground. Verify proper layout and appearance. Repeat inspection every 200 shingles.
- D. Visually inspect completed installation for weathertight condition.

### 3.6 PROTECTION

- A. Protect installed roofing until completion of Project.
- B. Do not allow traffic on completed roof.

### 3.7 ADJUSTING

- A. Replace damaged shingles prior to Substantial Completion.

END OF SECTION

SECTION 07 46 25

SIDING AND TRIM

PART 1 - GENERAL

1.1 SECTION INCLUDES:

- A. Exterior, panelized cladding system and accessories to complete a drained and back-ventilated rainscreen.

1.2 RELATED SECTIONS

- A. B. Section 06 10 00 - Rough Carpentry
- B. E. Section 07 25 00 - Weather Barriers
- C. F. Section 07 62 00 – Sheet Metal Flashing and Trim
- D. G. Section 07 90 05 - Joint Protection

1.2 REFERENCES

- A. American Architectural Manufacturers Association (AAMA):
  - 1. AAMA 509-14 – Voluntary Test and Classification Method of Drained and Back Ventilated Rain Screen Wall Cladding Systems
- B. ASTM International (ASTM):
  - 1. ASTM C 518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
  - 2. ASTM C 1185 - Standard Test Methods for Sampling and Testing Non-Asbestos Fiber Cement.
  - 3. ASTM E-84 - Standard Test for Surface Burning Characteristics of Building Materials.
  - 4. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
- D. National Fire Protection Association (NFPA):
  - 1. NFPA 285 - Fire Test Method for Exterior Wall Assemblies Containing Combustible Material.
  - 2. NFPA 268 – Ignition Resistance of Exterior Wall Assemblies.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 60 00 – Product Requirements.
- B. Product Data: Submit manufacturer's product description, storage and handling requirements, and installation instructions.
- C. Product Test Reports and Code Compliance: Documents demonstrating product compliance with local building code, such as test reports or Evaluation Reports from qualified, independent testing agencies.
- E. Manufacturer's Details: Submit drawings including plans, sections, showing installation details that demonstrate product dimensions, edge/termination conditions/treatments, compression and control joints, corners, openings, and penetrations.
- F. Samples: Submit samples of each siding product type proposed for use.
- G. Samples: Submit sample, 4 inches in width, 6 inches in length, of manufacturer's standard color options for prefinished trim materials.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications:

1. All panels specified in this section must be supplied by a manufacturer with a minimum of 10 years of experience in fabricating and supplying cladding systems.
- E. Installer Qualifications: Installer shall have a minimum of three years documented experience with composite wall panels and siding installations.
- B. Mock-Up Wall: Provide a mock-up wall as evaluation tool for product random pattern installation and workmanship.
- C. Pre-Installation Meetings: Prior to beginning installation, conduct conference to verify and discuss substrate conditions, manufacturer's installation instructions and warranty requirements, and project requirements.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Panels must be stored flat and kept dry before installation. A waterproof cover over panels and accessories should be used at all times prior to installation. Do not stack pallets more than two high. Refer to the information included on each pallet.
- B. If panels are exposed to water or water vapor prior to installation, allow to completely dry before installing. Failure to do so may result in panel shrinkage at ship lap joints, and such action may void warranty.
- D. Panels MUST be carried on edge. Do not carry or lift panels flat. Improper handling may cause cracking or panel damage.
- D. Direct contact between the panels and the ground should be avoided at all times. It is necessary to keep panels clean during installation process.

#### 1.7 WARRANTY

- A. Provide manufacturer's 10-year warranty against manufactured defects in siding panels.

### PART II: PRODUCTS

#### 2.1 MANUFACTURERS

- A. Acceptable Manufacturers offering products that may meet specified requirements include, but are not limited to the following:
  1. Trespa Pura NFC
  2. Nichiha Corporation.
  3. Modern Mill.
  4. Azek.
- B. Basis of Design Product: Trespa Pura NFC. .
  1. Profile colors: Provide the following colors in random patten.
    - a. PU14 French Walnut.
    - b. PU24 Mystic Cedar.
    - c. PU28 Siberian Larch.
    - d. PU30 Tropical Ipe.
  2. Profiles: Wood plank texture with tongue and grooves running lengthwise, spaced 7.32 inches apart, .0315 inches in thickness.
  3. Accessory/Component Options:
    - a. Manufactured aluminum inside and outside corners. Universal starter rail, angle profile, J-profile for each profile color.
      1. Finish: Prefinished. Color selected from manufacturer's full line of colors.



- 4. Dimensions:
  - Width: 5.84 inches.
  - ii. Panel Thickness: .0315 inch.
  - v. Factory sealed.

D. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

## 2.2 MATERIALS

- A. Decorative high-pressure compact natural fibre laminate impregnated with thermosetting resins and surface layer on one side having decorative colors.
- B. Panels profiled along edges so that the long joints between the installed panels are ship-lapped.
- C. Factory-applied transparent top coat seal.

## 2.3 PERFORMANCE REQUIREMENTS:

- A. High Pressure Composite Cladding – Must comply with EN 438-2:21, Resistance to Impact.
- B. EN438-2:17 Dimensional Stability to elevated temperature.
- C. EN438-2:15 Resistance to we conditions.
- D. EN438-2:29 Resistance to artificial weathering.
- E. ASTM E84 Surface Burning Characteristics.
  - 1. Freeze-thaw: No damage or defects observed.
  - 2. Heat-Rain: No crazing, cracking, or other deleterious effects, surface or joint changes observed in any specimen.
- F. Surface Burning (CAN-ULC S102/ASTM E-84): Flame Spread: 0, Smoke Developed: 0.

## 2.4 ACCESSORIES

- A. Soffit Vent: DK Hardware Air Vent 84304 Continuous Soffit Vent.
  - 1. .5 inch H X 2.6 inches X 96 inches.
  - 2. Almond Brown or Black.
  - 3. Provide continuous soffit vents at roof eaves..

## 2.5 INSTALLATION COMPONENTS

- A. Aluminum Trim : Prefinished trim. Provide manufacturer's universal installation clip..
- B. Flashing System:
  - 1. Starter – main segments (3,030mm), inside corners, outside corners.
  - 2. Overhang – main segments (3,030mm), inside corners, outside corners, joint clips.
- C. Fasteners: Corrosion resistant fasteners, such as hot-dipped galvanized screws appropriate to local building codes and practices must be used. Do not use aluminum fasteners, staples or fasteners that are not rated or designed for intended use. See manufacturer's instructions for appropriate fasteners for construction method used.
- D. Flashing: Flash all areas specified in manufacturer's instructions. Do not use raw aluminum flashing. Flashing must be PVC coated.
- E. Sealant: Sealant shall comply with ASTM C920, Class 35. Refer to specification section 07 90 05 – Joint Sealers.

## PART III: EXECUTION

### 3.1 EXAMINATION

#### A. Verification of Conditions:

1. Install decorative high-pressure panels over braced steel furring and sheathing including plywood or OSB sheathing.
2. Allowable stud and furring spacing: 16" o.c. maximum.
3. A weather resistive barrier is required when installing decorative high pressure panels. Use an approved weather resistive barrier (WRB) as defined by the 2020 New York State Building Code.
4. Appropriate metal flashing should be used to prevent moisture penetration around all doors, windows, wall bottoms, material transitions and penetrations.

#### B. Examine site to ensure substrate conditions are within alignment tolerances for proper installation.

#### C. Do not begin installation until unacceptable conditions have been corrected.

#### D. Do not install panels or components that appear to be damaged or defective. Do not install wet panels.

### 3.2 TOLERANCE

#### A. Wall surface plane must be plumb and level within +/- ¼ inch in 20 feet in any direction.

### 3.3 INSTALLATION

#### A. General: Install products in accordance with the latest installation guidelines of the manufacturer and all applicable building codes and other laws, rules, regulations and ordinances. Review all manufacturer installation, maintenance instructions, and other applicable documents before installation.

1. Provide vertical control/expansion Joints as recommended by product manufacturer.
3. Provide horizontal/compression joints as recommended by product manufacturer. Refer to installation guides.

#### B. Panel Cutting

1. Always cut panels outside or in a well-ventilated area. Do not cut the products in an enclosed area.
2. Always wear safety glasses and NIOSH/OSHA approved respirator whenever cutting, drilling, sawing, sanding or abrading the products. Refer to manufacturer SDS for more information.
2. Use a dust-reducing circular saw with a diamond-tipped or carbide-tipped blade.
4. Immediately clean dust from cut panels as it may bind to the finish.

### 3.4 CLEANING AND MAINTENANCE

#### A. Clean finished panels using method recommended by manufacturer.

End of Section

## SECTION 07 62 00

### SHEET METAL FLASHING AND TRIM

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes sheet metal flashing and trim in the following categories:
  - 1. Exposed trim.
  - 2. Metal flashing.
  - 3. Gutters and Downspouts.
  
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Section 07 24 00 – Exterior Insulation Finish Systems
  - 2. Section 07 46 25- Siding and Trim.
  - 3. Section 07 90 05 - "Joint Sealers" for elastomeric sealants.

##### 1.2 PERFORMANCE REQUIREMENTS

- A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing.

##### 1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
  
- B. Shop Drawings: Provide scaled drawings indicating flashing and trim dimensions and assembly with adjacent materials. Identify configuration and attachment method.
  
- C. Product Data including manufacturer's material and finish data, installation instructions, and general recommendations for each specified flashing material and fabricated product.

##### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experience Installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

##### 1.5 PROJECT CONDITIONS

- A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work, and protection of materials and finishes.

## PART 2 - PRODUCTS

### 2.1 METALS

- A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated and with not less than the strength and durability of alloy and temper designated below:
  - 1. Factory-Painted Aluminum Sheet: ASTM B 209, 3003-H14, with a minimum thickness of 0.024 inch, unless otherwise indicated.

### 2.2 MISCELLANEOUS MATERIALS AND ACCESSORIES

- A. Solder: ASTM B 32, Grade Sn50, used with rosin flux.
- B. Fasteners: Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with material being fastened.
- C. Asphalt Mastic: SSPC-Paint 12, solvent-type asphalt mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil dry film thickness per coat.
- D. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.
- E. Elastomeric Sealant: Generic type recommended by sheet metal manufacturer and fabricator of components being sealed and complying with requirements for joint sealants as specified in Division 7 Section - Joint Sealers.
- F. Epoxy Seam Sealer: 2-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior and interior nonmoving joints, including riveted joints.
- G. Adhesives: Type recommended by flashing sheet metal manufacturer for waterproof and weather-resistant seaming and adhesive application of flashing sheet metal.
- H. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of Work, matching or compatible with material being installed; noncorrosive; size and thickness required for performance.

### 2.3 FABRICATION, GENERAL

- A. Sheet Metal Fabrication Standard: Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.
- B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- C. Form exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
- D. Seams: Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.

- E. Expansion Provisions: Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- F. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
- G. Separate metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.
- H. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.
- I. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, noncorrosive metal recommended by sheet metal manufacturer.
  - 1. Size: As recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured.
- J. Gutter and Downspouts: Size gutter and downspout to accommodate a 100 year rain event.
  - 1. Gutters, Hangers, and Anchors: Aluminum sheet ASTM B 209, Alloy 3105-H24, thickness 0.063 inch (1.6 mm). Provide types required to suit project requirements.
  - 2. Downspout Anchors: Aluminum. Provide types required to suit project requirements.
  - 3. Elbows: Aluminum sheet, ASTM B 209, Alloy 3105-H24. Minimum tensile strength 26,000 psi, minimum yield strength 25,000 psi or equivalent.
    - a. Thickness: 0.032 inch (0.48 mm).
    - b. Size: To match downspouts.
- K. SHEET METAL FABRICATIONS
- L. General: Fabricate sheet metal items in thickness or weight needed to comply with performance requirements but not less than that listed below for each application and metal.
- M. Gutters: Fabricate from the following material:
  - 1. Aluminum: minimum .032 inch thick.
- N. Downspouts: Fabricate from the following material:
  - 1. Aluminum: 0.032 inch thick.
- O. Exposed Trim: Fabricate from the following material:
  - 1. Aluminum: 0.032 inch thick.
- P. Base Flashing: Fabricate from the following material:
  - 1. Aluminum: 0.032 inch thick.
- Q. Counterflashing: Fabricate from the following material:
  - 1. Aluminum: 0.032 inch thick.
- R. Flashing Receivers: Fabricate from the following material:
  - 1. Aluminum: 0.032 inch thick.

- S. Drip Edges: Fabricate from the following material:
  - 1. Aluminum: 0.032 inch thick.
- T. Eave Flashing: Fabricate from the following material:
  - 1. Aluminum: 0.032 inch thick.

## 2.4 ALUMINUM EXTRUSION FABRICATIONS

- A. Aluminum Extrusion Units: Fabricate extruded-aluminum running units with formed or extruded-aluminum joint covers for installation behind main members where possible. Fabricate mitered and welded corner units.

## 2.5 ALUMINUM FINISHES

- A. General: Comply with Aluminum Association's (AA) "Designation System for Aluminum Finishes" for finish designations and application recommendations.
- B. High-Performance Organic Coating Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pre-treat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's instructions.
  - 1. Fluoropolymer 2-Coat Coating System: Manufacturer's standard 2-coat, thermo-cured system composed of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 605.2.
    - a. Color and Gloss: As selected by Architect.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. General: Unless otherwise indicated, install sheet metal flashing and trim to comply with performance requirements, manufacturer's installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Anchor units of Work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight and weatherproof.
- B. Install exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- C. Roof-Edge Flashings: Secure metal flashings at roof edges according to FM Loss Prevention Data Sheet 1-49 for specified wind zone.

- D. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- E. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.
  - 1. Use joint adhesive for nonmoving joints specified not to be soldered.
- F. Seams: Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
- G. Counter flashings: Coordinate installation of counter flashings with installation of assemblies to be protected by counter flashing. Install counter flashings in reglets or receivers. Secure in a waterproof manner by means of snap-in installation and sealant, lead wedges and sealant, interlocking folded seam, or blind rivets and sealant. Lap counter flashing joints a minimum of 2 inches and bed with sealant.
- H. Roof-Drainage System: Install drainage items fabricated from sheet metal, with straps, adhesives, and anchors recommended by SMACNA's Manual or the item manufacturer, to drain roof in the most efficient manner. Coordinate roof-drain flashing installation with roof-drainage system installation. Coordinate flashing and sheet metal items for steep-sloped roofs with roofing installation.

### 3.3 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.
- B. Provide final protection and maintain conditions that ensure sheet metal flashing and trim Work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.

END OF SECTION





SECTION 07 90 05  
JOINT SEALERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Self-leveling pourable joint sealants.
- C. Joint backings and accessories.

1.2 RELATED REQUIREMENTS

- A. Section 03 30 00 – Cast-In-Place Concrete: Pourable joint sealant.
- B. Section 07 46 25 – Siding and Trim.
- C. Section 08 11 13 – Hollow Metal Doors and Frames.
- D. Section 08 71 00 - Door Hardware: Setting exterior door thresholds in sealant.
- E. Section 08 80 00 - Glazing: Glazing sealants and accessories.
- F. Section 09 21 16 - Gypsum Board Assemblies: Sealing acoustical and sound-rated walls and ceilings.
- G. Section 09 30 00 – Tiling: Sealants at dissimilar materials.

1.3 REFERENCE STANDARDS

- A. ASTM C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants; 2015.
- B. ASTM C834 - Standard Specification for Latex Sealants; 2010.
- C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.
- D. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2000 (Reapproved 2011).
- E. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2008 (Reapproved 2012).

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
  - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
  - 2. List of backing materials approved for use with the specific product.

3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
  4. Substrates the product should not be used on.
- C. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.
- D. Sealant Schedule: Identify locations for various sealants, sealant type and color to be selected.

## 1.5 QUALITY ASSURANCE

- A. Laboratory Testing: Provide test results for each combination of sealant, substrate, backing, and accessories. Test results shall provide the following information.
1. Adhesion Testing: In accordance with ASTM C794.
  2. Compatibility Testing: In accordance with ASTM C1087.
  3. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.
  4. Testing is not required if sealant manufacturer provides data showing previous testing, not older than 24 months, that shows satisfactory adhesion, lack of staining, and compatibility.

## 1.6 WARRANTY

- A. See Section 01 70 00 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

## PART 2 PRODUCTS

### 2.1 JOINT SEALANT APPLICATIONS

- A. Scope:
1. Exterior Joints: Seal open joints, whether or not the joint is indicated on the drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
    - a. Wall expansion and control joints.
    - b. Joints between door, window, and other frames and adjacent construction.
    - c. Joints between different exposed materials.
    - d. Openings below ledge angles in masonry.
    - e. Other joints indicated below.
  2. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
    - a. Joints between door, window, and other frames and adjacent construction.
    - b. Control joints.
    - c. Expansion joints.
    - d. Joints between ceramic wall tile and dissimilar materials.
    - e. Other joints indicated below.
  3. Do not seal the following types of joints.
    - a. Intentional weepholes in masonry.
    - b. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.

- c. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
  - d. Joints where installation of sealant is specified in another section.
- B. Exterior Joints: Use nonsag non-staining silicone sealant, unless otherwise indicated.
- 1. Control and Expansion Joints in Concrete Paving: Self-leveling polyurethane "traffic-grade" sealant.
- C. Interior Joints: Use nonsag silicone sealant, unless otherwise indicated.
- 1. Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion silicone sealant.
  - 2. Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; white.
- D. Interior Wet Areas: Bathrooms, restrooms, kitchens, and food service areas; fixtures in wet areas include plumbing fixtures, countertops, cabinets, and other similar items: Mildew-resistant silicone sealant.

## 2.2 NONSAG JOINT SEALANTS

- A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
- 1. Movement Capability: Plus and minus 50 percent, minimum.
  - 2. Non-Staining To Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
  - 3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
- B. Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
- 1. Color: Match adjacent finished surfaces.
- C. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.

## 2.3 SELF-LEVELING SEALANTS

- A. Self-Leveling Polyurethane Sealant: ASTM C920, Grade P, Uses M and A; single or multicomponent; explicitly approved by manufacturer for traffic exposure; not expected to withstand continuous water immersion.
- 1. Movement Capability: Plus and minus 25 percent, minimum.

## 2.4 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
    - a. Concrete.
    - b. Masonry.
    - c. Unglazed surfaces of ceramic tile.
  3. Remove laitance and form-release agents from concrete.

### 3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
1. Do not leave gaps between ends of sealant backings.
  2. Do not stretch, twist, puncture, or tear sealant backings.
  3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
  2. Completely fill recesses in each joint configuration.
  3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
  2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

### 3.4 FIELD QUALITY CONTROL

- A. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

### 3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

### 3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

### 3.7 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
  - 1. 1 or 2 part silicone joint sealant.
  - 2. Joint Locations:
    - a. Isolation and contraction joints in cast-in-place concrete slabs.
  - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces.
  - 1. Joint Locations:
    - a. Construction joints in cast-in-place concrete.
    - b. Control and expansion joints in unit masonry.
    - c. Joints between different materials listed above.
    - d. Perimeter joints between materials listed above and frames of doors windows.
  - 2. Silicone Joint Sealant: Single component, non-sag, Class 100/50.
  - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- C. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal non-traffic surfaces.
  - 1. Joint Locations:
    - a. Perimeter joints of exterior openings where indicated.
    - b. Tile control and expansion joints.
    - c. Perimeter joints between interior wall surfaces and frames of interior doors, windows and elevator entrances.
  - 2. Joint Sealant: Silicone.
  - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION



DOCUMENT 08 11 13

HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Standard hollow metal doors and frames.

B. Related Sections:

1. Division 08 Section "Door Hardware" for door hardware for hollow metal doors.
2. Division 07 Section "Sealants" for sealants at hollow metal frames.
3. Division 09 Sections "Exterior Painting" and "Interior Painting" for field painting hollow metal doors and frames.

1.2 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings.

B. Standard Hollow Metal Work: Hollow metal work fabricated according to ANSI/SDI A250.8.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, fire-resistance rating, and finishes.

B. Shop Drawings: Include the following:

1. Elevations of each door design.
2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of each different wall opening condition.
6. Details of anchorages, joints, field splices, and connections.
7. Details of accessories.
8. Details of moldings, removable stops, and glazing.
9. Details of conduit and preparations for power, signal, and control systems.

C. Other Action Submittals:

1. Schedule: Provide a schedule of hollow metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with door hardware schedule.

D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of hollow metal door and frame assembly.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain hollow metal work from single source from single manufacturer.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use non-vented plastic.
  - 1. Provide additional protection to prevent damage to finish of factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch- high wood blocking. Do not store in a manner that traps excess humidity.
  - 1. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

#### 1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

#### 1.7 COORDINATION

- A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Door Components
  - 2. Ceco Door Products; an Assa Abloy Group company.
  - 3. Habersham Metal Products Company.
  - 4. Steelcraft; an Ingersoll-Rand company.

#### 2.2 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 or A60 metallic coating.
- D. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z coating designation; mill phosphatized.



1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- F. Powder-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow metal frames of type indicated.
- G. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool with 6- to 12-lb/cu. ft. density; with maximum flame-spread and smoke-development indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
- H. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

### 2.3 STANDARD HOLLOW METAL DOORS

- A. General: Provide doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8.
  1. Design: Stile and Rail as shown on drawings.
  2. Core Construction: Manufacturer's standard polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core.
    - a. Thermal-Rated (Insulated) Doors: On all exterior Hollow Metal doors.
      - 1) Locations: Exterior doors and interior doors where indicated.
  3. Vertical Edges for Single-Acting Doors: Beveled edge.
    - a. Beveled Edge: 1/8 inch in 2 inches.
  4. Top and Bottom Edges: Closed with flush or inverted 0.042-inch-thick, end closures or channels of same material as face sheets.
  5. Tolerances: Comply with SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames."
- B. Exterior Doors: Face sheets fabricated from metallic-coated steel sheet. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
  1. Level 1 and Physical Performance Level C (Standard Duty).
  2. Door Face Metal Thickness: 18 gage, 0.042 inch, minimum.
  3. Core: Foamed in place polystyrene foam, 1.9 to 2.2 lbs/cu ft.
  4. Insulating Value: U-value of .084, when tested in accordance with ASTM C1363.
  5. Width: 1-3/4 inches.
- C. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
- D. Fabricate concealed stiffeners and hardware reinforcement from either cold- or hot-rolled steel sheet.

## 2.4 STANDARD HOLLOW METAL FRAMES

- A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.
- B. Exterior Frames: Fabricated from metallic-coated steel sheet.
  - 1. Fabricate frames with mitered or coped corners.
  - 2. Fabricate frames as welded unless otherwise indicated.
  - 3. Frames for Level 1 Steel Doors: 0.042-inch- thick steel sheet.
- C. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material as frames.
- D. Provide thermal break at exterior frames to deter thermal transmittance from exterior side of frame to interior side of frame.

## 2.5 FRAME ANCHORS

- A. Jamb Anchors:
  - 1. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.
  - 2. Compression Type for Drywall Slip-on Frames: Adjustable compression anchors.

## 2.6 STOPS AND MOLDINGS

- A. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch high unless otherwise indicated.

## 2.7 FABRICATION

- A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/NAAMM-HMMA 861.
- C. Hollow Metal Doors:
  - 1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
- D. Hollow Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
  - 1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
  - 2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
  - 3. Jamb Anchors: Provide number and spacing of anchors as follows:
    - a. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
      - 1) Four anchors per jamb from 60 to 90 inches high.
      - 2) Two anchors per head for frames above 42 inches wide and mounted in metal-stud partitions.

- b. Compression Type: Not less than two anchors in each jamb.
- 4. Door Silencers: Except on weather-stripped doors, drill stops to receive door silencers as follows. Keep holes clear during construction.
  - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
  - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
- E. Fabricate concealed stiffeners, edge channels, and hardware reinforcement from either cold- or hot-rolled steel sheet.
- F. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
  - 1. Locate hardware as indicated, or if not indicated, according to ANSI/NAAMM-HMMA 861.
  - 2. Reinforce doors and frames to receive non-templated, mortised, and surface-mounted door hardware.
  - 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
  - 4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

## 2.8 STEEL FINISHES

- A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pre-treating.
  - 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness to the following tolerances:

1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
  2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
  3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
  4. Plumbness: Plus or minus 1/16 inch, measured at jambs on a perpendicular line from head to floor.
- C. Drill and tap doors and frames to receive non-templated, mortised, and surface-mounted door hardware.

### 3.3 INSTALLATION

- A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
- B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.
1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
    - a. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    - b. Install door silencers in frames.
    - c. Remove temporary braces necessary for installation only after frames have been properly set and secured.
    - d. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
    - e. Field apply bituminous coating to backs of frames that are filled with grout containing anti-freezing agents.
  2. Metal-Stud Partitions: Solidly pack mineral-fiber insulation behind frames.
  - 3.
  4. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
    - a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    - b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
    - c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    - d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.
- C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Standard Steel Doors:
    - a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
    - b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
    - c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
    - d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.

3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.
- B. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- C. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION



SECTION 08 14 33

STILE AND RAIL WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Stile and Rail Wood doors
  - 2. Factory finishing wood doors.
  - 3. Factory fitting stile and rail wood doors to frames and factory machining for hardware.

1.2 SUBMITTALS

- A. Product Data: For each type of door indicated. Include details of core and edge construction and trim for openings. Include factory-finishing specifications.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.
  - 1. Indicate dimensions and locations of mortises and holes for hardware.
  - 2. Indicate dimensions and locations of cutouts.
  - 3. Indicate requirements for veneer matching.
  - 4. Indicate doors to be factory finished and finish requirements.
- C. Samples: Provide 12"X12" corner door cut-out indicating corner construction and edge banding. Provide specified wood species, stile trim profile, and factory finish indicating range of color.
- D. Warranty: Sample of special warranty.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
- B. Source Limitations: Obtain stile and rail wood doors from single manufacturer.
- C. Quality Standard: In addition to requirements specified, comply with AWI's "Architectural Woodwork Quality Standards Illustrated."
  - 1. Provide AWI Quality Certification Labels or an AWI letter of licensing for Project indicating that doors comply with requirements of grades specified.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in plastic bags or cardboard cartons.
- C. Mark each door on bottom rail with opening number used on Shop Drawings.

1.5 PROJECT CONDITIONS

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

1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
    - a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
    - b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.
    - c. Delamination.
  2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
  3. Warranty Period for stile and rail Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Forever Barnwood.
  2. Eggers Industries.
  3. Karona Doors.
  4. Marlite.
  5. Villa Doors.
  6. Truestile doors.

2.2 DOOR CONSTRUCTION, GENERAL

- A. Low-Emitting Materials: Fabricate doors with adhesives and composite wood products that do not contain urea formaldehyde.
- B. WDMA Premium Quality Grade.
- C. Stiles and rails, finger jointed Douglas Fir with 1-3/4" solid stock matching edge bands.
- D. Veneer Species: Douglas Fir.
- E. All moldings and sticking to be of manufacturer's standard design or as shown on drawings. Miter all corners and install using nails, staples or glue.
- F. Blocking: Provide solid wood blocking to eliminate through-bolting hardware.
- a. 5-inch top-rail blocking, in doors indicated to have closers.
  - b. 5-inch bottom-rail blocking.
  - c. 5-inch mid-rail blocking.



## 2.3 "FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
- C. Openings: Cut and trim openings through doors.
  - 1. Light Openings: Trim openings with moldings of material and profile indicated.
  - 2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Division 08 Section "Glazing."

## 2.4 FACTORY FINISHING

- A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
  - 1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
  - 2. Color selected by Architect.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine doors and installed door frames before hanging doors.
  - 1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
  - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Hardware: For installation, see Division 08 Section "Finish Hardware."
- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and the referenced quality standard, and as indicated.
- C. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.
- D. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

### 3.3 ADJUSTING

- A. Operation: Re-hang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION



SECTION 08 31 00

ACCESS DOORS AND PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes access panels, were indicated or required to finish walls:
- B. This Section includes the following:
  - 1. Wall access doors and frames.
- C. Related Sections include the following:
  - 1. Division 9 Section "Gypsum Board" for gypsum wall board assemblies.

1.3 SUBMITTALS

- A. Product Data: For each type of door and frame indicated. Include construction details relative to materials, individual components and profiles, finishes, and fire ratings (if required) for access doors and frames.
- B. Shop Drawings: Show fabrication and installation details of customized doors and frames. Include plans, elevations, sections, details, and attachments to other Work.
- C. Schedule: Provide complete door and frame schedule, including types, general locations, sizes, construction details, latching or locking provisions, and other data pertinent to installation.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of access doors and frames through one source from a single manufacturer.
- B. Size Variations: Obtain Architect's acceptance of manufacturer's standard-size units, which may vary slightly from sizes indicated.

1.5 COORDINATION

- A. Obtain specific location and sizes for required access panels from trades requiring access to concealed equipment including but not limited to toilet room wet walls and shafts and indicate on schedule specified in "Submittals" article.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Access Doors:
    - a. Milcor Limited Partnership.
    - b. Jensen Industries.
    - c. J. L. Industries, Inc.
    - d. Larsen's Manufacturing Company.
    - e. Karp Associates, Inc.

### 2.2 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36.
- B. Hot-Rolled Steel Sheets: ASTM A 569, Commercial Steel (CS), Type B; free of scale, pitting, and surface defects; pickled and oiled; with minimum thickness indicated representing specified nominal thickness according to ASTM A 568.
- C. Cold-Rolled Steel Sheets: ASTM A 366, Commercial Steel (CS), or ASTM A 620, Drawing Steel (DS), Type B; stretcher-leveled standard of flatness; with minimum thickness indicated representing specified nominal thickness according to ASTM A 568. Electrolytic zinc-coated steel sheet, complying with ASTM A 591, Class C coating, may be substituted at fabricator's option.
- D. Aluminum Extrusions: ASTM B 221, Alloy 6063-T6.
- E. Aluminum-Alloy Rolled Tread Plate: ASTM B 632, Alloy 6061-T6.
  - 1. Mill finish, AA-M10 (Mechanical Finish: as fabricated, unspecified).
- F. Drywall Beads: Edge trim formed from 0.0299-inch (0.76-mm) zinc-coated steel sheet formed to receive joint compound and in size to suit thickness of gypsum board and gypsum sheathing.

### 2.3 FINISHES

- A. Shop Primers: Provide primers that comply with Division 9 Section "Painting."

### 2.4 ACCESS DOORS AND FRAMES

- A. Recessed Access Doors and Trimless Frames: Fabricated from steel sheet.
  - 1. Locations: Exposed locations.
  - 2. Door: Size to be determined by application. Minimum 0.060-inch- (1.5-mm-) thick sheet metal in the form of a pan recessed depth required for finish material infill in Public Areas, Personnel Corridors and Office Areas.
  - 3. Frame: Minimum 0.060-inch- (1.5-mm-) thick sheet metal with drywall bead for gypsum board surfaces.

4. Hinges: Spring-loaded, concealed-pin type.
5. Latch: Cylinder Lock furnished with two keys, keyed alike.

## 2.5 FABRICATION

- A. General: Provide access door assemblies manufactured as integral units ready for installation.
- B. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.
- C. Steel Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access panels to types of supports indicated.
  1. Exposed Flanges: Nominal 1 inch wide around perimeter of frame.
  2. Provide mounting holes in frames to attach frames to metal framing in plaster and drywall construction and to attach masonry anchors in masonry construction. Furnish adjustable metal masonry anchors.
- D. Latching Mechanisms: Furnish number required to hold doors in flush, smooth plane when closed.

## 2.6 STEEL FINISHES

- A. Surface Preparation: Prepare uncoated ferrous-metal surfaces to comply with minimum requirements indicated below for SSPC surface-preparation specifications and environmental exposure conditions of installed metal fabrications:
  1. Interiors (SSPC Zone 1A): SSPC-SP 3, "Power Tool Cleaning."
- B. Apply shop primer to uncoated surfaces of metal fabrications. Comply with SSPC-PA 1, "Paint Application Specification No. 1," for shop painting.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Advise installers of other work about specific requirements relating to access door and floor door installation, including sizes of openings to receive access door and frame, as well as locations of supports, inserts, and anchoring devices.

### 3.2 INSTALLATION

- A. Comply with manufacturer's written instructions for installing access doors and frames.
- B. Set frames accurately in position and attach securely to supports with plane of face panels aligned with adjacent finish surfaces.

3.3 ADJUSTING AND CLEANING

- A. Adjust doors and hardware after installation for proper operation.
- B. Remove and replace doors and frames that are warped, bowed, or otherwise damaged.

3.4 SCHEDULE

- A. Provide access doors at the following locations:
  - 1. At locations indicated by individual specification sections.
  - 2. Where indicated in contract documents.
  - 3. At plumbing and heating valve locations that will be concealed, or partially concealed by finish wall construction.

END OF SECTION

SECTION 08 32 13  
SLIDING ALUMINUM FRAMED GLASS DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Horizontal Sliding Wall Systems, Thermally Broken:
  - 1. Aluminum clad, wood. (HSW.75)

1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 07 62 00 – Sheet Metal Flashing and Trim.
- C. Section 07 90 05 – Joint Sealants.
- D. Section 08 71 00 – Door Hardware.

1.3 REFERENCES

- A. ASTM International (ASTM):
  - 1. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
  - 2. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass.
  - 3. ASTM E1423 - Standard Practice for Determining Steady State Thermal Transmittance of Fenestration Systems.
  - 4. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
  - 5. ASTM E1886 - Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
  - 6. ASTM E1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
- B. American Architectural Manufacturers Association (AAMA):
  - 1. AAMA 506 - Voluntary Specifications for Hurricane and Impact and Cycle Testing of Fenestration Products.
  - 2. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.
  - 3. AAMA 2604 - Voluntary Specifications, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
  - 4. AAMA 2605 - Voluntary Specifications, Performance Requirements and Test Procedures for Superior Performance Organic Coatings on Aluminum Extrusions and Panels.
- C. American National Standards Institute (ANSI):
  - 1. ANSI Z97.1 - Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test.
- D. Consumer Product Safety Commission (CPSC):
  - 1. CPSC 16 CFR 1201 - Safety Standard for Architectural Glazing Materials.
- E. Glass Association of North America (GANA):

1. GANA Glazing Manual.

F. National Fenestration Rating Council (NFRC):

1. NFRC 100 - Procedure for Determining Fenestration Product U-Factors.
2. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence.
3. NFRC 500 - Procedure for Determining Fenestration Product Condensation Resistance Values.

#### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data:
  1. Manufacturer's data sheets on each product to be used.
  2. Preparation instructions and recommendations.
  3. Storage and handling requirements and recommendations.
  4. Typical installation methods.
- C. Verification Samples:
  1. One 6 inch (152 mm) samples of window profile.
  2. One 12 x 12 inches (304 x 304 mm) samples of glazing.
  3. Two sample chips of frame finish.
- D. Shop Drawings: Include details of materials, measurements, hardware, glass, and finish. Include relationship with adjacent construction.
- E. Design Data: Engineering data illustrating compliance with specified design and performance criteria.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
- C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

#### 1.6 PRE-INSTALLATION CONFERENCE

- A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, hardware coordination, critical path items and approvals.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original packaging with identification labels intact and in sizes to suit project.
- B. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
  1. Store product flat in dry well-ventilated area protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.



- C. Prior to installation, keep the protective film to prevent product from getting scratched or damaged by dirt and debris. Remove as recommended by Manufacturer following installation.
- D. Protect from damage due to weather, excessive temperature, and construction operations.

## 1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Panda Windows & Doors, which is located at: 3415 Bellington Rd.; N. Las Vegas, NV 89030; Tel: 702-643-5700; Fax: 702-643-5715; Email: request info (Marketing@panda-windows.com); Web: <http://www.panda-windows.com>.
- B. Door Engineering
- C. Anderson Windows and Doors.
- D. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

### 2.2 PERFORMANCE REQUIREMENTS

- A. Standards Compliance:
  - 1. Comply with the recommendations of the GANA Glazing Manual.
  - 2. Safety Glazing Requirements: Per ANSI Z97.1 and CPSC 16CFR 1201.
  - 3. Laminated Glass Requirements: ASTM C 1172.
  - 4. Insulating Glass Unit Requirements: ASTM E 2190.
  - 5. Aluminum Profiles: 6063-T5 extruded aluminum per ASTM B221.
- B. Thermal Movement: Design to allow movement based on the following:
  - 1. Ambient Temperature: 120 degrees F (49 degrees C).
  - 2. Surface Temperature: 180 degrees F (82 degrees C).

### 2.3 HORIZONTAL SLIDING WALL SYSTEMS

- A. Basis of Design: Thermally Broken, Aluminum Clad Wood Horizontal Sliding Wall System HSW.75 as manufactured by Panda Windows and Doors:
  - 1. Aluminum Profiles Wall Thickness: Up to 1/8 inch (3 mm) allowing for oversized panels.
  - 2. Interior Cladding: Unfinished Wood.
    - a. Species: Douglas Fir.
  - 3. Tracking:
    - a. Surface: Accommodate any flooring conditions.
      - 1) Track Size: 1/2 inch (13 mm) ADA Compliant track.
  - 4. Panel Configuration:
    - a. Straight.
    - b. Pockets: 4 panel, 1 pocket.
    - c. Pockets: 4 panel, 2 pocket, bi-parting.
  - 5. Panel Size: As indicated on Drawings.
  - 6. Stile and Rail Profile Width: 3-9/16 inches (90 mm).
  - 7. Stile and Rail Profile Thickness or Depth: 2-5/8 inches (67 mm).
  - 8. Glass Thickness: 1 inch (25 mm).

9. Weight of Door Panel: Approximately 7 to 8 pounds per sq ft (34 to 39 kg per sq. meter) depending on overall panel size and glass configuration.
- B. Hardware:
  1. Wheel Carriages: Nylon covered wheels with stainless steel ball bearings and double sliding rollers.
    - a. Corrosion resistant treatment applied for high performance.
    - b. Capacity for Each Wheel Carriage: 550 pounds (249 kg).
  2. Operating Mechanism: A pin locking system. Provide lock cylinder and core to match Owner's existing keying system.
  3. Weatherstripping: EPDM gasket and dense felt brushes.
  4. Handles:
    - a. Style: Laser.
    - b. Finish: Nero Cal..
- C. Glazing:
  1. Glass Type: Low-E-coated, Insulating Glass Units, Double Glazed. Refer to Section 08 80 00 – Glazing.
- D. Fabrication: Fabricate aluminum components before finishing.
  1. Fabricate sliding aluminum-framed glass doors for openings indicated.
  2. Glazing: Glaze door panels in the factory.
  3. Frames: 1/8 inch (3.2 mm) thick aluminum snap-fitted extrusions, thermally broken using high quality polyamide iso-bar.
  4. Complete assembly, finishing and hardware application to greatest extent possible in the factory.

## 2.4 FINISHES

- A. Aluminum Finish:
  1. Kynar (3-Coat) per AAMA 2605.
  2. Color: Black.
  3. Color: As determined by Architect from Manufacturer's standard range.
- B. Wood Finish:
  1. Stain of color selected by Architect .

## 2.5 ACCESSORIES

- A. Fasteners:
  1. Manufacturer's standard fasteners.
  2. Manufacturer's standard, stainless steel noncorrosive fasteners.
  3. Exposed Fasteners: Avoid exposed fasteners to the greatest extent possible. Use fasteners that match finish hardware being fastened.
- B. Shims: Manufacturer recommended plastic precision shims.

## C. PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly constructed and prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.

- B. Ensure structure and substrate are adequate to support sliding door and wall systems.
- C. Verify rough opening conditions and dimensions:
  - 1. Verify opening is properly flashed and waterproofed.
  - 2. Verify opening is level, plumb, and square with no unevenness on the floor.
- D. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions approved submittals and in proper relationship with adjacent construction.
  - 1. Install level, straight, plumb, and square.
  - 2. Accurately fit, align, and securely fasten.
- B. Adjust components and systems for correct function and operation in accordance with manufacturer's written instructions.

### 3.4 FIELD QUALITY CONTROL

- A. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

### 3.5 DEMONSTRATION AND TRAINING

- A. Instruct Owner's personnel in care, adjustment and operation of sliding wall and door systems.
- B. Provide competent instructor for not less than one four-hour training session after completion and acceptance of work.

### 3.6 CLEANING AND PROTECTION

- A. Clean products in accordance with the manufacturer's recommendations.
- B. All protective film or plastic wrap shall be removed within 48 hours of installation.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION



## SECTION 08 41 13

### ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section Includes: Architectural Aluminum Storefront Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of storefront units.
  - 1. Types of Aluminum Storefront Systems include:
    - a. Storefront System – 2" x 4-1/2" nominal dimension; Thermal; Front Plane for 1" glazing.

##### 1.2 DEFINITIONS

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

##### 1.3 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum frame storefront system indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, hardware, and attachments to other work, operational clearances and installation details.
- C. Samples: For units with factory-applied color finishes including samples of hardware and accessories involving color selection.
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for each type, of aluminum framed storefront.

##### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An installer which has had successful experience with installation of the same or similar units required for the project and other projects of similar size and scope.
- B. Manufacturer Qualifications: A manufacturer capable of providing aluminum framed storefront system that meet or exceed performance requirements indicated and of documenting this performance by inclusion of test reports, and calculations.
- C. Source Limitations: Obtain aluminum framed storefront system through one source from a single manufacturer.
- D. Product Options: Drawings indicate size, profiles, and dimensional requirements of aluminum framed storefront system and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements." Do not modify size and dimensional requirements.
  - 1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

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

#### 1.5 PROJECT CONDITIONS

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

#### 1.6 WARRANTY

- A. Manufactures Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty.
  - 1. Warranty Period: Two (2) years from Date of Substantial Completion of the project.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Subject to compliance with requirements, Manufacturers offering products to be incorporated in the work include, but are not limited to, the following.
  - 1. Kawneer Company Inc. Trifab 451T at exterior locations.
  - 2. Efco Corp
  - 3. Vistawall

#### 2.2 MATERIALS

- A. Aluminum Extrusions: Alloy and temper recommended by aluminum storefront manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.070" wall thickness at any location for the main frame and complying with ASTM B 221: 6063-T6 alloy and temper.
- B. Fasteners: Aluminum, nonmagnetic stainless steel or other materials to be non-corrosive and compatible with aluminum window members, trim hardware, anchors, and other components.
- C. Anchors, Clips, and Accessories: Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.
- D. Reinforcing Members: Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating; provide sufficient strength to withstand design pressure indicated.
- E. Sealant: For sealants required within fabricated storefront system, provide permanently elastic, non-shrinking, and non-migrating type recommended by sealant manufacturer for joint size and movement.
- F. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data.

#### 2.3 STOREFRONT FRAMING SYSTEM

- A. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

- B. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, nonbleeding fasteners and accessories compatible with adjacent materials. Where exposed shall be stainless steel.
- C. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.
- D. Packing, Shipping, Handling and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- E. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect storefront material against damage from elements, construction activities, and other hazards before, during and after storefront installation.

## 2.4 GLAZING SYSTEMS

- A. Glazing: As specified in Division 08 Section "Glazing".
- B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, extruded EPDM rubber.
- C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.
- D. Bond-Breaker Tape: Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.
- E. Glazing Sealants: As recommended by manufacturer for joint type, and as follows:
  - 1. Weather Seal Sealant: ASTM C 920 for Type S, Grade NS, Class 25, Uses NT, G, A, and O; single-component neutral-curing formulation that is compatible with structural sealant and other system components with which it comes in contact; recommended by structural-sealant, weather seal-sealant, and aluminum-framed-system manufacturers for this use.

## 2.5 ACCESSORY MATERIALS

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

## 2.6 FABRICATION

- A. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:
  - 1. Profiles that are sharp, straight, and free of defects or deformations.
  - 2. Accurately fit joints; make joints flush, hairline and weatherproof.
  - 3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior.
  - 4. Physical and thermal isolation of glazing from framing members.
  - 5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
  - 6. Provisions for field replacement of glazing.
  - 7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

- B. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.
- C. Structural-Sealant-Glazed Framing Members: Include accommodations for using temporary support device to retain glazing in place while structural sealant cures.
- D. Storefront Framing: Fabricate components for assembly using manufactures standard installation instructions.
- E. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

## 2.7 ALUMINUM FINISHES

- A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B. Factory Finishing:
  - 1. (70% PVDF) AAMA 2605, fluoropolymer coating. Color selected by Architect.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weather tight installation.
  - 1. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
  - 2. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing aluminum framed storefront system, accessories, and other components.
- B. Install aluminum framed storefront system level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.
- C. Set sill members in bed of sealant or with gaskets, as indicated, for weather tight construction.
- D. Install aluminum framed storefront system and components to drain condensation, water penetrating joints, and moisture migrating within door and framing to the exterior.
- E. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

### 3.3 ADJUSTING, CLEANING, AND PROTECTION

- A. Clean aluminum surfaces immediately after installing aluminum framed storefronts. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.



- B. Clean glass immediately after installation. Comply with glass manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.
- C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

END OF SECTION



SECTION 08 71 00

DOOR HARDWARE

PART 1 – GENERAL

1.1 SUMMARY

- A. Definition: "Finish Hardware" includes items known commercially as finish hardware which are required for swing, sliding and folding doors, except special types of unique and non-matching hardware specified in the same section as the door and door frame.
- B. Extent of finish hardware required is indicated on drawings and in schedules.
- C. Types of finish hardware required include the following:
  - 1. Butt Hinges
  - 2. Continuous Hinges
  - 3. Lock cylinders and keys
  - 4. Lock and latch sets
  - 5. Exit devices
  - 6. Closers
  - 7. Electronic door control devices
  - 8. Overhead Holders
  - 9. Door trim units

1.2 RELATED SECTIONS

- A. Section 08 11 13 – Hollow Metal Doors and Frames.
- B. Section 08 14 33 – Stile and Rail Wood Doors.
- C. Section 08 41 13 – Aluminum Framed Entrances and Storefronts.

1.3 QUALITY ASSURANCE

- A. Manufacturer: Obtain each type of hardware (latch and lock sets, etc.) from a single manufacturer.
- B. Supplier: A recognized architectural finish hardware supplier, with warehousing facilities, who has been furnishing hardware in the project's vicinity for a period of not less than 2 years, and who is, or who employs an experienced architectural hardware consultant who is available, at reasonable times during the course of the work, for consultation about project's hardware requirements, to Owner, Architect and Contractor.
- C. Where emergency exit devices are required on fire-rated doors (with supplementary marking on doors with labels indicating "Fire Door to be Equipped with Fire Exit Hardware") provide labels on exit devices indicating "Fire Exit Hardware"
- D. This supplier shall be responsible to field check existing openings for proper application of sizes and strikes for all openings.

- E. Hardware Supplier: Shall be an established firm dealing in contract builders' hardware. He must have adequate inventory, qualified personnel on staff and be located within 100 miles of the project. The distributor must be a factory-authorized dealer for all materials required. The supplier shall be or have in employment an Architectural Hardware Consultant (AHC).

#### 1.4 REGULATORY REQUIREMENTS

- A. Comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)," ANSI A117.1, FED-STD-795, "Uniform Federal Accessibility Standards."

#### 1.5 SUBMITTALS

- A. Product Data: Submit manufacturer's technical product data for each item of hardware in accordance with Division 1 Section "Submittals". Include whatever information may be necessary to show compliance with requirements, and include instructions for installation and for maintenance of operating parts and finish.
- B. Hardware Schedule: Submit final hardware schedule in a vertical format as recognized by the Door and Hardware Institute (DHI). Horizontal schedule format will not be accepted. Coordinate hardware with doors, frames, and related work to ensure proper size, thickness, hand, function and finish of hardware.
  - 1. Final Hardware Schedule Content: Based on finish hardware indicated, organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
    - a. Type, style, function, size and finish of each hardware item.
    - b. Name and manufacturer of each item.
    - c. Fastenings and other pertinent information.
    - d. Index to include location of hardware set cross-referenced to indications on drawings both on floor plans and in door and frame schedule.
    - e. Explanation of all abbreviations, symbols, codes, etc., contained in schedule.
    - f. Mounting locations for hardware.
    - g. Door and frame sizes and materials.
    - h. Keying information.
    - i. Wiring diagrams with theory of operation.
- C. Submittal Sequence: Submit schedule in accordance to Division 1, particularly where acceptance of hardware schedule must precede fabrication of other work (e.g., hollow metal frames) which is critical in the project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by finish hardware, and other information essential to the coordinated review of hardware schedule.
- D. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.
- E. Templates: Furnish hardware templates to each fabricator of doors, frames and other work to be factory-prepared for the installation of hardware. Upon request, check shop drawings of such other work, to confirm that adequate provisions are made for proper location and installation of hardware.

- F. Submit to General Contractor the factory order acknowledgement numbers for the various hardware items to be used on the project. The factory order acknowledgement numbers shall help to facilitate and expedite any service that may be required on a particular hardware item. General Contractor shall keep these order acknowledgement numbers on file in the construction trailer.

#### 1.6 PRODUCT HANDLING

- A. Tag each item or package separately, with identification related to final hardware schedule, and include basic installation instructions with each item or package.
- B. Inventory hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.
- C. Deliver individually packaged hardware items at the proper times to the proper locations (shop or project site) for installation.
- D. Provide secure lock-up for hardware delivered to the project, but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation.

### PART 2 - PRODUCTS

#### 2.1 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size and other distinctive qualities of each type of finish hardware is indicated in the Finish Hardware Data Sheet and Hardware Schedule at the end of this section. Products are identified by using hardware designation numbers of the following.

Manufacturer's Product Designations:

1. Butt Hinges:	McKinney
2. Continuous Hinges:	Select
3. Locksets:	Best.
4. Cores:	Best/Falcon/Schlage
5. Closers:	Stanley Closer
6. Exit Devices:	Precision
7. Overhead Holders:	Sargent
8. Kickplates:	Burns
9. Silencers:	Ives
10. Floor/Wall Stops:	DCI
11. Threshold & Weatherstrip:	Nation Guard Products

#### 2.2 MATERIALS AND FABRICATION

- A. General:
  - 1. Hand of door: Drawings show direction of slide, swing or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.

2. Manufacturer's Name Plate: Do not use manufacturer's products which have manufacturer's name or trade name displayed in a visible location (omit removable nameplates), except in conjunction with required UL labels and as otherwise acceptable to Architect.
3. Manufacturer's identification will be permitted on rim of lock cylinders only.
4. Finish: All hardware finish shall match US1B Flat Black unless otherwise indicated. Closer bodies, covers, and arms shall be powder coated finish.
5. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.
6. Furnish screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of such other work as closely as possible, including "prepared for paint" in surfaces to receive painted finish.
7. Provide concealed fasteners for hardware units which are exposed when door is closed, except to extent no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work, except where it is not feasible to adequately reinforce the work. In such cases, provide sleeves for each thru-bolt or use sex screw fasteners.
8. Tools and Maintenance Instructions for Maintenance: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of finish hardware.

### 2.3 HINGES, BUTTS, AND PIVOTS

- B. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- C. Screws: Furnish Phillips flat-head or machine screws for installation of units, except furnish Phillips flat-head or wood screws for installation of units into wood. Finish screw heads to match surface of hinges or pivots.
- D. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
  1. Steel Hinges: Steel pins.
  2. Non-ferrous Hinges: Stainless steel pins.
  3. Out-swing Corridor Doors: Non-removable pins.
  4. Interior Doors: Non-rising pins.
  5. Tips: Flat button and matching plug, finished to match leaves.
  6. Number of hinges: Provide number of hinges indicated but not less than 3 hinges per door leaf for doors 90" or less in height and one additional hinge for each 30" of additional height.
- E. Acceptable Manufacturers:
  1. Ives
  2. McKinney
  3. Hager
- F. Supplier shall be responsible for the correct hinge size to fit any existing frames or doors.

- G. Furnish hinges in sizes and types as required by architect's details to achieve maximum degree of opening.

## 2.5 LOCK CYLINDERS AND KEYING

- E. General: Supplier will meet with Owner to finalize keying requirements and obtain final instructions in writing.
- F. Review the keying system with the Owner and provide the type required (master, grandmaster or great-grandmaster), integrated with Owner's existing system. If key pinning charts are required, owner to furnish charts to hardware supplier.
- G. Furnish removable core cylinders at all doors, factory keyed as directed by the owner to the Owner's existing system.
- H. Furnish temporary keyed cores for the construction period and remove these when directed. The construction cores remain property of the supplier and shall be returned to the supplier when they are removed. Contractor shall install the permanent cores in the presence of the owner's representative.
- I. Metals: Construct lock cylinder parts from brass/bronze, stainless steel or nickel silver.
- J. Comply with Owner's instructions for master keying and, except as otherwise indicated, provide individual change key for each lock which is not designated to be keyed alike with a group of related locks.
- K. Permanently inscribe each key and cylinder with Visual Key Control that identifies cylinder manufacturer key symbol, and inscribe key with the notation "DO NOT DUPLICATE"
- L. Key Material: Provide keys of nickel silver only.
- M. Key Quantity:
  - 1. Furnish three (3) change keys for each lock.
  - 2. Five (5) master keys for each master system.
  - 3. One (1) extra blank for each lock.
  - 4. Six (6) Construction master keys.

Deliver keys as directed by the owner.

## 2.6 LOCKS, LATCHES AND BOLTS

- A. Locks shall meet these certifications:
  - 1. Cylindrical Locks - ANSI A156.2 Series 4000, Grade 1 Strength and Operational requirements. Meets A117.1 Accessibility Codes. Latch bolts shall be steel with minimum 1/2" throw, deadlocking on keyed and exterior functions. 3/4" throw anti-friction latchbolt on pairs of fire doors. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame. Provide 5/8" minimum throw of latch and deadbolt used on pairs of doors.
  - 2. Lock Manufacturers: Subject to compliance with requirements, provide lockset products of the following approved manufacturers:
    - a. Falcon Lock Co.

- b. Sargent Lock Co.
- c. Corbin Russwin
- d. Best Lock Co.
- e. Schlage Lock Co.

## 2.7 CLOSERS AND DOOR CONTROL DEVICES

- B. Size of Units: Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit, depending upon size of door, exposure to weather and anticipated frequency of use.
- C. Closers: All door closers shall be of one manufacturer to provide for proper installation and servicing after installation. Closer shall carry a manufacturer's TEN YEAR WARRANTY for hydraulic units.
- D. All door closers shall pass UL10C positive pressure fire test.
- E. No Pressure Relief Valves (PRV) shall be permitted.
- F. Acceptable Manufacturers and Products:
  - 1. Falcon Closers
  - 2. Norton
  - 3. Sargent
  - 4. Yale
  - 5. LCN Closers

## 2.8 EXIT DEVICES

- A. General: All devices shall be of one manufacturer to provide for proper installation and serving. Devices shall be non-handed and capable of direct field conversion for all available trim functions. All devices shall carry a three year warranty against manufacturing defects and workmanship.
- B. Furnish roller strikes for all exit devices.
- C. All mounting fasteners to be concealed. Devices to be non-handed or field reversible.
- D. Furnish stainless steel latch bolt with  $\frac{3}{4}$ " throw and security dead latching for all rim and surface vertical rod exit devices.
- E. Furnish center case with heavy wrought and sintered parts and stamped cold roll steel chassis with a thickness of .090".
- F. Device cover stainless steel, 0.048 thick or brass, 0.050" thick.
- G. Furnish stainless steel or brass touch pad cover on all exit devices.
- H. Mechanism housing extruded aluminum with 0.080" thickness and extruded cover with 0.152" thickness.
- I. The end cap to be cast or forged material and is not to overlap the mechanism case.
- J. No exposed rivets or screws on back of device that would be visible through glass light.
  - 1. Where lever trim is specified, levers to match all locksets, latch sets, and privacy sets.



- K. Escutcheons for all lever trim to be deep drawn stainless steel or brass with (4) thru-bolts anchoring trim assembly to exit device chassis. (25 series).
  - 2. Escutcheons for all lever trim shall be roll formed stainless steel or brass with (4) thru-bolts anchoring trim assembly to exit device chassis. .
  - 3. Levers to be brass, cast, or forged.
  - 4. Lever return springs to be compression type.
  - 5. Protect lever trim by a shear pin, which will withstand a rotational force of 35 ft-lbs before shearing.
  - 6. Vandal resistant trim shall conform to ANSI 156.3 Grade 1 Security Trim standard.
- L. Pull type trim to be thru-bolted to panic device center case with minimum four number 10 machine screws and one ¼ x 20 machine screw..
- M. Vertical rod devices to be UL, cUL labeled for fire door applications without the use of bottom rod assemblies or when bottom rods are required for security applications.
- N. Fire exit devices mounted on labeled wood doors to be thru-bolt mounted in compliance with door manufacturer's requirements. Where special blocking has been specified in wood door specification, do not thru-bolt exit devices.
- O. Acceptable Manufacturers and Types:
  - 1. Falcon Exit Devices
  - 2. Sargent Exit Devices
  - 3. Precision Hardware

## 2.9 DOOR TRIM UNITS

- A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units (kick plates, edge trim, viewers, knockers, mail drops and similar units); either machine screws or self-tapping screws.
- B. Fabricate protection plates (armor, kick or mop) not more than 1-1/2" less than door width on stop side and not more than 1/2" less than door width on pull side, x the height indicated. All protection plates shall have all edges beveled (B4E).
- C. Metal Plates: Stainless steel, .050" (U.S. 18 ga.).
- D. All pull plates and handles to be thru-bolted. Install pull plate prior to push plate to conceal thru-bolts. Provide concealed fasteners for all push/pull applications.
- E. Acceptable Manufacturers:
  - 1. Ives
  - 2. Rockwood
  - 3. Quality
  - 4. Burns
  - 5. DCI

## 2.10 WEATHERSTRIP AND GASKETING

- A. General: Except as otherwise indicated, provide continuous weather stripping at each leaf of every exterior door. Provide type, sizes and profiles shown or scheduled. Provide non-corrosive fasteners as recommended by manufacturer for application indicated.

- B. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by the manufacturer.
- C. Acceptable Manufacturers:
  - 1. Pemko Mfg. Co.
  - 2. Reese
  - 3. National Guard Co.

#### 2.11 THRESHOLDS

- A. General: Except as otherwise indicated provide standard aluminum threshold unit of type, size and profile as shown or detailed.
- B. Provide welded custom thresholds where scheduled and noted in the hardware sets. Provide cover plates where scheduled.
- C. Provide thresholds that are 1" wider than depth of frame unless specified or detailed otherwise.
- D. Acceptable Manufacturers:
  - 1. Pemko Mfg. Co.
  - 2. Reese
  - 3. National Guard Co.

#### 2.12 DOOR SILENCERS

- A. All hollow metal frames shall have grey resilient type silencers. Quantity (3) on single doors and quantity (2) on pairs of doors.

#### 2.13 ELECTRICAL HARDWARE

- A. Where scheduled supply electrified exit devices that allow for remote retraction of latch bolts by use of a solenoid. Access control system will allow exit devices to be changed from exit only or latched to push-pull operation.
- B. Furnish power transfers that are recessed into door and frame. Power transfers to allow electrical power to pass from door to frame without the use of door cords or transfer hinges.
- C. Furnish power supplies to operate electrified exit devices. Power supplies to have regulated output that is field selectable for either 24VDC @ 2 amps or 12VDC @ 4 amps. Standard input at 120VAC @ 1amp or 240VAC @ 0.5amp. Power Supplies to have five (5) knockout holes for conduit connection with terminal block that handles up to 14 gauge wire. Power supplies will handle up to 16 amp current inrush to retract exit device latch bolt.
- D. Furnish wiring diagrams (riser and point to point) with theory of operation to electrical contractor for use in installing electrical hardware products.
- E. Electrical contractor to run all wiring and make all final connections for electrified hardware. Hardware supplier shall be responsible to furnish all wiring diagrams to operate electrified hardware. Access control material and electrified hardware to interface at junction boxes.

## PART 3 - EXECUTION

### 3.2 INSTALLATION

- A. Mount hardware units at heights indicated in "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute, except as specifically indicated or required to comply with governing regulations, and except as may be otherwise directed by Architect.
- B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, coordinate removal, storage and reinstallation or application of surface protections with finishing work specified in the Division-9 sections. Do not install surface-mounted items until finishes have been completed on the substrate.
- C. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- D. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
- E. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant.
- F. Technical and Warranty Information:
  - 1. At the completion of the project, the technical and warranty information coalesced and kept on file by the General Contractor/Construction Manager shall be given to the Owner or Owner's Agent. In addition to both the technical and warranty information, all factory order acknowledgement numbers supplied to the General Contractor/Construction Manager during the construction period shall be given to the Owner or Owner's Agent. The warranty information and factory order acknowledgement numbers shall serve to both expedite and properly execute any warranty work that may be required on the various hardware items supplied on the project.
  - 2. Submit to General Contractor two copies each of parts and service manuals and two each of any special installation or adjustment tools. Include for locksets, exit devices, door closers and any electrical products.

### 3.3 ADJUST AND CLEAN

- A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy, and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

- D. Instruct Owner's Personnel in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.
- E. Continued Maintenance Service: Approximately six months after the acceptance of hardware in each area, the Installer, accompanied by the representative of the latch and lock manufacturer, shall return to the project and re-adjust every item of hardware to restore proper function of doors and hardware. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures. Replace hardware items which have deteriorated or failed due to faulty design, materials or installation of hardware units. Prepare a written report of current and predictable problems (of substantial nature) in the performance of the hardware.

3.4 SCHEDULE

- A. Provide the following hardware group designations as indicated in the contract documents.

**HARDWARE GROUP 1**

Opening: 101-1

Qty	Description	Finish	Mfr.
1	Mortise cylinder 63-46	BSP	Sargent

**HARDWARE GROUP 2**

Opening: 101-4

Qty	Description	Finish	Mfr.
2	Pivot hinge EP-5J	26D	McKinney
2	Pull 8102HD6-STD	BLK	Ives

**HARDWARE GROUP 3**

Opening: 101-5

Qty	Description	Finish	Mfr.
3	4-1/2 Std Wt (.134) Hinge TA2714 4-1/2" x 4-1/2"	US1B	McKinney
1	Cylindrical Lockset 6505 x KP	BSP	Sargent
1	Closer – Parallel arm, top jamb 351-0Z-TB-CPS	BSP	Sargent
3	Silencers BS	Black	DCI
1	Weatherstrip 172S	A	Nat. Guard
1	Sweep C607BB	BB	Nat. Guard
1	Threshold 8533	Mill	Nat. Guard

**HARDWARE GROUP 4**

Opening 103-1

Qty	Description	Finish	Mfr.
6	Double acting hinge 3044-8	Black	Bommer
4	8200 3"X12" Push Plate	BLK	Ives
4	Kick Plate 8400 4" X 35"	BLK	Ives
2	Kick down door holder FS544	BLK	Ives

**HARDWARE GROUP 5**

Opening 103-2

Qty	Description	Finish	Mfr.
3	4-1/2 Std Wt(.134) Hinge TA2714 4-1/2" x 4-1/2"	BSP	McKinney
1	Push Pad, Rim 8813J x ETL x 64	BSP	Sargent
1	Closer - Parallel Arm, top jamb 351-0Z-TB-CPS	BSP	Sargent
1	Concealed Overhead Stop 6-336 Std Duty	BSP	Rixon
1	Kick Plate 8400 4" X 35"	BLK	Ives
1	Weatherstrip 172S	A	Nat. Guard
1	Sweep C607BB	BB	Nat. Guard
1	Threshold 8533	Mill	Nat. Guard
3	Silencers BS	Black	DCI
1	Card Reader Smart Reader	Black	Brivo
1	Electric Power Transfer EL-CEPT	US26D	Securitron
1	Power Supply PBS-24-1		Securitron
1	Wiring Harness QC-C1500P		McKinney
1	Wiring Harness QC-C200P		McKinney

Key unlocks the outside lever.

Present credentials at card reader unlocks latch bolt.

**HARDWARE GROUP 6**

Opening: 104-1

Qty	Description	Finish	Mfr.
3	4-1/2 Std Wt(.134) Hinge TA2714 4-1/2" x 4-1/2"	260	McKinney
1	Cylindrical Lockset 6537 x KP	BSP	Sargent
1	Wall Stop 3211TI	Black	DCI
3	Silencers BS	Black	DCI

**HARDWARE GROUP 7**

Opening 105-1, 106-1

Active	Description	Finish	Mfr.
1	Continuous Hings SL24 CL HD x 83" x TF	BL	Select
1	9266-36-20-O Pull	BLK	Ives
1	8200-3" X 12" Push Plate	BLK	Ives
1	Closer - Parellel Arm 351-A-P	BSP	Sargent
2	Kick Plate 8400 4" X 35"	BLK	Ives
1	Wall stop WS404-CVX	BLK	Ives
3	Silencers BS	Black	DCI

**HARDWARE GROUP 8**

Opening 201-1

Qty	Description	Finish	Mfr.
3	4-1/2 Std Wt(.134) Hinge TA2714 4-1/2" x 4-1/2"	BSP	McKinney
2	Dead bolt 489-T	BSP	Sargent
2	Pull 8302 3-1/2" X 15"	BLK	Ives
1	Weatherstrip 172S	A	Nat. Guard
1	Sweep C607BB	BB	Nat. Guard
1	Threshold 8533	Mill	Nat. Guard
6	Silencers BS	Black	DCI
1	Removable mullion 980A		Sargent
1	Bi-parting sliding barn door hardware-Degree-U	Black	Rustica

END OF SECTION

SECTION 08 80 00

GLAZING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Insulating glass units.
- B. Glazing units.
- C. Glazing compounds and accessories.

1.2 RELATED REQUIREMENTS

- A. Section 07 25 00 - Weather Barriers.
- B. Section 07 90 05 - Joint Sealants: Sealants for other than glazing purposes.
- C. Section 08 11 13 - Hollow Metal Doors and Frames: Glazed borrowed lites.
- D. Section 08 14 33 – Stile and Rail Wood Doors.
- E. Section 08 32 13 – Sliding Aluminum-Framed Glass Doors.
- F. Section 08 41 13 - Aluminum-Framed Storefronts: Glazing furnished as part of storefront assembly.
- G. Section 26 05 19 – Low Voltage Electrical Power conductors and Cables.
- H. Section 26 27 26 – Wiring Devices.

1.3 REFERENCE STANDARDS

- A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; current edition.
- B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test; 2010.
- C. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2011).
- D. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.
- E. ASTM C1036 - Standard Specification for Flat Glass; 2011e1.
- F. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.
- G. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.
- H. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass; 2015.

- I. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2012a.
- J. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.
- K. GANA (GM) - GANA Glazing Manual; Glass Association of North America; 2009.
- L. GANA (SM) - GANA Sealant Manual; Glass Association of North America; 2008.
- M. GANA (LGRM) - GANA Laminated Glazing Reference Manual; Glass Association of North America; 2009.
- N. IGMA TM-3000 - North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use; Insulating Glass Manufacturers Alliance; 1990 (2004).
- O. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2014.
- P. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2014.
- Q. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2014.

#### 1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.
- C. Samples for initial review: Submit one sample 12 by 12 inch in size of clear, tinted, and obscure glazing options. Provide a minimum of two different shades of the following colors.
  - 1. Gray.
  - 2. BronzeSubmit additional shades as requested by Architect. Submit a minimum of two samples of each obscure glass type.
- D. Samples for final approval: Submit two samples 12 by 12 inch in size of insulated glass units.
- E. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

#### 1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with GANA (GM), GANA (SM), GANA (LGRM), and IGMA TM-3000 for glazing installation methods. Maintain one copy on site.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

#### 1.6 WARRANTY

- A. See Section 01 70 00 - Closeout Submittals, for additional warranty requirements.



- B. Insulating Glass Units: Provide a five (5) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.

## PART 2 PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

- A. Select type and thickness of exterior glazing assemblies to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of glass.
  - 1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
  - 2. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
  - 3. Glass thicknesses listed are minimum.
- B. Vapor Retarder and Air Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure vapor retarder and air barrier.
  - 1. In conjunction with vapor retarder and joint sealer materials described in other sections.
- C. Thermal and Optical Performance: Provide glass products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
  - 1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 5.2/6.3 computer program.
  - 2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 5.2/6.3 computer program.
  - 3. Solar Optical Properties: Comply with NFRC 300 test method.

### 2.2 GLASS MATERIALS

- A. Float Glass: Provide float glass based glazing unless noted otherwise.
  - 1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
  - 2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and FT.
  - 3. Fully Tempered Safety Glass: Complies with ANSI Z97.1 and 16 CFR 1201 criteria, Kind SG.
  - 4. Tinted Type: ASTM C1036, Class 2 - Tinted, Quality-Q3, color and performance characteristics as indicated.
  - 5. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.

### 2.3 INSULATING GLASS UNITS

- A. Insulating Glass Units: Types as indicated.
  - 1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
  - 2. Spacer Color: Black.
  - 3. Edge Seal:
    - a. Color: Black.
  - 4. Purge interpane space with dry air, hermetically sealed.
- B. Type IG-A - Insulating Glass Units: Vision glass, double glazed.
  - 1. Applications:
    - a. Exterior glazing, unless otherwise indicated.
    - b. Glazing at exterior storefront framing.
    - c. Glazing at exterior windows.
  - 2. Space between lites filled with Argon gas.

3. Outer Lite: Tint Color: As selected by Architect.
  4. Kind ¼" HS (heat strengthened) and Kind FT (fully tempered) when required by the governing building code and NFPA 101, Life Safety Code 2000.
  5. Interior Lite: 1/4" clear heat strengthened glass. Kind FT (fully tempered) when required by the governing building code and NFPA 101, Life Safety Code 2000.
  6. Low-E Coating: "Solarban" 60 Solar Control Low-E. Sputtered on third surface.
  7. Visible Light Transmittance: 34 - 71
  8. Winter Nighttime U-Factor: 0.27
  9. Summer Daytime U-Factor: 0.29
  10. Solar Heat Gain Coefficient: 0.22 – 0.32
  11. Outdoor Visible Reflectance: 6 - 9
  12. Shading Coefficient: 0.26 – 0.39
  13. Safety glazing where required by code.
- C. Type IG-B - Insulating Glass Units: Vision glass, double glazed.
1. Applications:
    - a. Exterior glazing, unless otherwise indicated.
    - b. Glazing at exterior windows.
  2. Space between lites filled with Argon gas.
  3. Outer Lite: Tint Color: As selected by Architect.
  4. Kind ¼" HS (heat strengthened) and Kind FT (fully tempered) when required by the governing building code and NFPA 101, Life Safety Code 2000.
  5. Interior Lite: 1/4" etched, heat strengthened glass. Kind FT (fully tempered) when required by the governing building code and NFPA 101, Life Safety Code 2000.
  6. Low-E Coating: "Solarban" 60 Solar Control Low-E. Sputtered on third surface.
  7. Smart Film applied to interior (#4) surface. Color – White.
  8. Visible Light Transmittance Without Smart Film: 81 percent.
  9. Winter Nighttime U-Factor Without Smart Film: 0.27
  10. Summer Daytime U-Factor Without Smart Film: 0.29
  11. Solar Heat Gain Coefficient Without Smart Film: 0.22 – 0.32
  12. Outdoor Visible Reflectance Without Smart Film: 6 - 9
  13. Shading Coefficient Without Smart Film : 0.26 – 0.39
  14. Safety glazing where required by code.
  15. Smart Film Characteristics:

Description	NON-Adhesive Smart Tint		Smart Cling Self-Adhesive Smart Tint	
	(HC-NF)	Low driving voltage High on clarity (LV-NF)	(HC-SF)	Low driving voltage High on clarity (LV-SF)
Film thickness	0.35mm		0.35mm	
Film sizes	<b>71" x 1958" or 1800mm x 50m</b>		<b>71" x 1958" or 1800mm x 50m</b>	
UV block	> 99%		> 99%	
IR block	Standard Low Haze High Clarity > 20%	TR90 Low Haze High Clarity + Heat Block > 98%	Standard Low Haze High Clarity > 20%	TR90 Low Haze High Clarity + Heat Block > 98
Solar heat gain coefficient (950 nm)	0.71	0.1	0.71	0.1
Operation temperature	-10 °C ~ 60 °C			
Parallel light transmittance (650 nm)	96 ± 1 (on) 18 ± 0.5 (off)	98 ± 1 (on) 2 ± 1 (off)	96 ± 1 (on) 18 ± 0.5 (off)	98 ± 1 (on) 2 ± 1 (off)
Total light transmittance	90 ± 1 (on) 4 ± 2 (off)	98 ± 1 (on) 4 ± 2 (off)	90 ± 1 (on) 4 ± 2 (off)	98 ± 1 (on) 4 ± 2 (off)
Haze	3 ± 1 (on) 89 ± 2 (off)	3 ± 1 (on) 98 ± 2 (off)	3 ± 1 (on) 89 ± 2 (off)	3 ± 1 (on) 98 ± 2 (off)
Operating voltage	100 ~ 120 VAC	28 ~ 48 VAC	100 ~ 120 VAC	28 ~ 48 VAC
Frequency range	50 ~ 60 Hz			
Power consumption	3 ~ 4 W/m <sup>2</sup>			
Switching speed	Off → On : 50-100 milliseconds / On → Off : 200-300 milliseconds			

## 2.4 GLAZING UNITS

- A. Type SG - Monolithic Safety Glazing: Non-fire-rated.
1. Applications:
    - a. Glazed lites in interior doors.
    - b. Other locations required by applicable federal, state, and local codes and regulations.
    - c. Other locations indicated on the drawings.
  2. Glass Type: Fully tempered safety glass as specified.
  3. Tint: Clear.
  4. Thickness: 1/4 inch, nominal.

## 2.5 GLAZING COMPOUNDS

- A. Manufacturers:
1. Bostik Inc: [www.bostik-us.com](http://www.bostik-us.com).
  2. Momentive Performance Materials, Inc (formerly GE Silicones): [www.momentive.com](http://www.momentive.com).
  3. Pecora Corporation: [www.pecora.com](http://www.pecora.com).
  4. BASF Corporation: [www.basf.com/us/en.html](http://www.basf.com/us/en.html).
  5. Substitutions: Refer to Section 01 60 00 - Product Requirements.
- B. Glazing Putty: Polymer modified latex recommended by manufacturer for outdoor use, knife grade consistency; grey color.
- C. Butyl Sealant: Single component; ASTM C920, Grade NS, Class 12-1/2, Uses M and A, Shore A hardness of 10 to 20; black color.

- D. Silicone Sealant: Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C920, Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 15 to 25; color as selected.

## 2.6 ACCESSORIES

- A. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.
- B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.
- C. Provide Smart Tint Controllers, dry contact switches, all cables and wiring within conduit, activation controller/switch, and all components to provide an operational system.

## PART 3 EXECUTION

### 3.1 VERIFICATION OF CONDITIONS

- A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.
- C. Verify that sealing between joints of glass framing members has been completed effectively.

### 3.2 PREPARATION

- A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

### 3.3 INSTALLATION, GENERAL

- A. Install glazing sealants in accordance with ASTM C1193, GANA Sealant Manual, and manufacturer's instructions.
- B. Smart Film Installation:
  - 1. Clean Smart Film and glass completely.
  - 2. Cut Smart Film to proper size of glass unit.
  - 3. Check alignment of film by adhering 4 inches of product while letting the remaining film lay flat on glass.
  - 4. Squeegee film into place following confirmation of proper alignment and coverage.
  - 5. install electrical connections and controller.
  - 6. Smart Film shall be fitted to glass with no visible gaps between film and opening frame from a distance of 5 feet.

### 3.4 CLEANING

- A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.
- B. Remove non-permanent labels immediately after glazing installation is complete.
- C. Clean glass and adjacent surfaces after sealants are fully cured.
- D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

### 3.5 PROTECTION

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.
- B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION



SECTION 09 00 00  
ROOM FINISH SCHEDULE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Type, Manufacturer's, and colors of finish materials (Refer to Room Finish Key).
- B. Room Finish Schedule.

PART 2 PRODUCTS

2.1 SCHEDULES (ATTACHED)

PART 3 EXECUTION:

3.1 GENERAL NOTES:

- A. Ceramic wall tile shall be full height in all locations unless noted otherwise
- B. Refer to door schedules for additional information of painting and staining of doors and frames.

END OF SECTION



**RECEPTION CENTER FINISH KEY**

**TIOGA DOWNS RACETRACK, LLC**

**April 15, 2024**

**Finish Key**

**AJH Design Project 23-111**

Abbr.	Material	Manufacturer	Number	Series	Size	Color	Spec Sect #	Location
<b>Resilient Base:</b>								
RB-1	Rubber	Johnsonite	tg5	Traditional	4"	Macadamia	09 65 00	Kitchen
<b>Porcelain Tile</b>								
CT-1	Porcelain Tile	Daltile	TR21	Trellis Oak	6" X 36"	Natural Ash	09 65 00	Restrooms
CT-2	Porcelain Tile	Daltile	EP04	Emerson Wood	6" X 48"	Balsam Fir	09 65 00	Restrooms
CT-3	Porcelain Tile	Daltile	EP03	Emerson Wood	6" X 48"	Brazilian Walnut	09 65 00	Restrooms
<b>Paint:</b>								
P-1	Paint	Sherwin Williams	SW7013	Ultra Spec 500		Ivory Lace	09 90 00	Wall Color
P-2	Paint	Sherwin Williams	SW7045	Ultra Spec 500		Intellectual Gray	09 90 00	Wall Accent
P-3	Stain	Sansin	3456	Purity Stain		Elephant Gray	09 90 00	Timber Frame
P-4	Paint	Sherwin Williams		Fast Drying Polyurethane		Clear	09 90 00	Ultra Flat. Wood wainscot and trim
P-5	Concrete Sealer	Greenice		Start/Stop		Clear	09 90 00	Concrete Floors
<b>Acoustic Ceiling Systems:</b>								
ACT-1	Acoustic Ceiling Tile	Armstrong	685	ACT: Mars ClimaPlus High NRC, Suspension: Donn D-DX	2' x 4'	White	09 51 00	
ACT-2	Acoustic Ceiling Tile	Armstrong	672	ACT: Mars ClimaPlus High NRC, Suspension: Donn D-DX	2' X 4'	White	09 51 00	
<b>Quarry Tile</b>								
QT-1	Quarry Tile	Daltile	0T03	Quarry Textures	6" X 6"	Ashen Gray	09 30 00	Serving Kitchen
QB-1	Quarry Tile	Daltile	0T03	Quarry Textures	6" X 6"	Ashen Gray	09 30 00	Serving Kitchen
<b>Solid Surfaces:</b>								
SS-1	Solid Surface	Wilsonart	9215CE	Solid Surface		Kimberlite	06 20 00	Window Sills





# AJH DESIGN

Architecture - Residential / Commercial / Industrial

www.ajh-design.com

## RECEPTION CENTER FINISH SCHEDULE

**TIOGA DOWNS RACETRACK, LLC**

**April 15, 2024**

**Finish Schedule**

**AJH Design Project 23-111**

Room No.	Room Name	Floor Material Matl/color	Base Color	Walls Color	Door Frame Color	Ceiling Finish	Remarks
101	Reception	Conc./P-5	P-3	P-1/P-2/P-4	P-2	P-3	Exposed aggregate conc. Floor. P-2 at south wall. P-4 wainscot and wood trim.
102	Corridor	Conc./P-5	P-3	P-1	P-4	ACT-1	
103	Serving Kitchen	QT-1	QB-1	P-1	P-2	ACT-2	
104	Janitor's Closet	Conc./P-5	RB-1	P-1	P-4	ACT-1	Exposed aggregate concrete floor.
105	Restroom	Conc./P-5	CWT-1, 2, 3	CWT-1, 2, 3	P-4	ACT-1	CWT-1, 2, 3 in random pattern. Refer to drawings. Exposed aggregate concrete floor.
106	Restroom	Conc./P-5	CWT-1, 2, 3	CWT-1, 2, 3	P-4	ACT-1	CWT-1, 2, 3 in random pattern. Refer to drawings. Exposed aggregate concrete floor.
201	Attic				P-2		

**General Notes:**

1. Paint all hollow metal frames. Refer to door schedule for additional information of painting of doors and frames.



## SECTION 09 21 16

### GYPSUM BOARD ASSEMBLIES

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Section includes gypsum board and joint treatment and accessories.
- B. Related Sections:
  - 1. Section 07 21 00 – Thermal Insulation.
  - 2. 07 24 00 - Exterior Insulation Finish Systems.
  - 3. Section 09 30 00 – Tiling.
  - 4. Section 09 90 00 – Painting and Coating.

##### 1.2 REFERENCES

- A. ASTM International:
  - 1. ASTM C475 - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
  - 2. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members.
  - 3. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
  - 4. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board.
  - 5. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
  - 6. ASTM C1002 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases.
  - 7. ASTM C1396/C1396M - Standard Specification for Gypsum Board.
  - 8. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
  - 9. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
  - 10. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
- B. Gypsum Association:
  - 1. GA 214 - Recommended Levels of Gypsum Board Finish.
  - 2. GA 216 - Application and Finishing of Gypsum Board.
  - 3. GA 600 - Fire Resistance Design Manual Sound Control.
- C. Intertek Testing Services (Warnock Hersey Listed):
  - 1. WH - Certification Listings.
- D. National Fire Protection Association:
  - 1. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
- E. Underwriters Laboratories Inc.:

1. UL - Fire Resistance Directory.
2. UL 723 - Tests for Surface Burning Characteristics of Building Materials.

### 1.3 SUBMITTALS

- A. Section 01 31 00 - Project Management and Coordination: Submittal procedures.
- B. Product Data: Submit data on metal framing, gypsum board, trim, and joint tape.

### 1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with ASTM C840.

### 1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.
- B. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

## PART 2 PRODUCTS

### 2.1 GYPSUM BOARD ASSEMBLIES

- A. Manufacturers:
  1. Georgia Pacific Gypsum Corp.
  2. CertainTeed Corporation.
  3. National Gypsum Co.
  4. United States Gypsum Co.
  5. Substitutions: Section 01 60 00 - Product Requirements.

### 2.2 COMPONENTS

- A. Gypsum Board Materials: ASTM C1396/C1396M.
  1. Standard Gypsum Board: ASTM C1396 ¼, 3/8, ½, and 5/8 inch thick (or as indicated on drawings), maximum available length in place; ends square cut, tapered edges.
- B. Gypsum Board Materials: ASTM C1396 Type MR moisture resistant.
  1. Moisture resistant Gypsum Board: ASTM C1396 5/8 inch thick, maximum available length in place; ends square cut, tapered edges.
  2. Core: Mold and moisture resistant gypsum core.
  3. Surface paper: moisture/mold/mildew resistant paper on front, back, and long edges.
  4. Mold/Mildew Resistance: 10 when tested in accordance with ASTM D 3273.
  5. Provide at restroom, serving kitchen, and other wet areas.
- C. Exterior Gypsum Sheathing Board: 5/8-inch-thick, maximum available length in place; ends square cut, tapered edges.
  1. Georgia-Pacific Gypsum LLC DensGlass Sheathing or equal.

2. Fiberglass-Mat Faced Gypsum Sheathing: ASTM C1177.
3. Length: 8 feet.
4. Weight: 1.9 lb/sq. ft.
5. Surfacing: Fiberglass mat on face, back, and long edges.
6. Racking Strength (Ultimate, not design value) (ASTM E72): Not less than 540 pounds per square foot, dry.
7. Flexural Strength, Parallel (ASTM C473): 80 lbf, parallel.
8. Humidified Deflection (ASTM C1177): Not more than 2/8 inch.
9. Permeance (ASTM E96): Not less than 23 perms.
10. R-Value (ASTM C518): 0.56.
11. Mold Resistance (ASTM D3273): 10, in a test as manufactured.
12. Exterior Gypsum Soffit Board: 5/8 inch thick, maximum available length in place; ends square cut, tapered square edges.

### PART 3 ACCESSORIES

- A. Corner Beads: Metal.
- B. Fasteners: ASTM C1002, Type S12
  1. Metal Accessories: Galvanized Steel Edge Trim: Type L bead.
- C. Joint Materials: ASTM C475; reinforcing tape, joint compound, adhesive, and water.
- D. Reveal Trim:
  1. Provide Fry Reglet DRM-625-625, 5/8-inch-wide reveal Aluminum alloy 6063 T5 in color selected by Architect.
  2. Expansion joints: Frey Reglet DRM-50-50-2-PC.

### PART 4 EXECUTION

#### 4.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify site conditions are ready to receive work and opening dimensions are as indicated.

#### 4.2 INSTALLATION

- A. Gypsum Board Installation:
  1. Install gypsum board in accordance with ASTM C840.
  2. Erect single layer standard gypsum board horizontal, with ends and edges occurring over firm bearing.
  3. Erect single layer fire rated gypsum board vertically, with edges and ends occurring over firm bearing.
  4. Use screws when fastening gypsum board to metal furring or framing.
  5. Place control joints spaced as follows:
    - a. Not to exceed 30 feet for exposed interior linear construction.
    - b. Not to exceed 12 feet where ceramic wall tile is installed on an exterior wall, in direct sunlight or wet conditions.
    - c. At metal door frames above each jamb.

- d. Consistent with lines of building spaces as indicated on Drawings or as directed.
6. Place corner beads at external corners Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials.
7. Finish in accordance with GA-214 Level 4
8. Tape, fill, and sand all joints, edges, and corners to produce smooth surface ready to receive finishes.
9. Feather coats on to adjoining surfaces so that camber is maximum 1/32 inch. Provide Level 4 finish.
10. Taping, filling, and sanding are required at surfaces behind adhesive applied ceramic tile.

#### 4.3 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation of Finished Gypsum Board Surface from Flat Surface: 1/8 inch in 10 feet in any direction.

#### 4.4 SCHEDULES

- A. Finishes in accordance with GA-214 Level:
  1. Level 1: Above finished ceilings concealed from view.
  2. Level 4: Walls and ceilings exposed to view.

END OF SECTION

SECTION 09 30 00  
TILING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Tile for wall applications.
- B. Ceramic accessories.
- C. Ceramic trim.
- D. Non-ceramic trim.

1.2 RELATED REQUIREMENTS

- A. Section 07 90 05 - Joint Sealers.
- B. Section 09 00 00 - Finish Key and Schedule.
- C. Section 09 21 16 – Gypsum Board Assemblies.

1.3 REFERENCE STANDARDS

- A. ANSI A108 Series/A118 Series/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2005.
- B. ANSI A108.1A - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2014.
- C. ANSI A108.1B - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- D. ANSI A108.1C - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Bed with Dry-Set or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- E. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2009 (Revised).
- F. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- G. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 1999 (Reaffirmed 2010).
- H. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2010).
- I. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (Reapproved 2010).

- J. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (Reapproved 2010).
  - K. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2010 (Revised).
  - L. ANSI A108.12 - American National Standard Specifications for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
  - M. ANSI A108.13 - American National Standard Specifications for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2010).
  - N. ANSI A118.3 - American National Standard Specifications for Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive; 2013 (Revised).
  - O. ANSI A118.5 - American National Standard Specifications for Chemical Resistant Furan Mortars and Grouts for Tile Installation; 1999 (Reaffirmed 2010).
  - P. ANSI A118.6 - American National Standard Specifications for Standard Cement Grouts for Tile Installation; 2010 (Revised).
  - Q. ANSI A118.8 - American National Standard Specifications for Modified Epoxy Emulsion Mortar/Grout; 2012.1.
  - R. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation; 2014.
  - S. ANSI A118.11 - American National Standard Specifications for EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
  - T. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2015.
- 1.4 ADMINISTRATIVE REQUIREMENTS
- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.
  - B. Pre-installation Meeting: Convene a pre-installation meeting one week before starting work of this section; require attendance by all affected installers.
- 1.5 SUBMITTALS
- A. See Section 01 30 00 - Administrative Requirements: Submittal procedures.
  - B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
  - C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.



- D. Samples: Submit one set of samples of the following for color selection or verification of color variations.
  - 1. Tile products
  - 2. Grouts
  - 3. Sealants
- E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- F. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.
- G. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

#### 1.6 QUALITY ASSURANCE & QUALIFICATIONS

- A. Perform Work in accordance with 2008 TCA Handbook and ANSI A108 Series/A118 Series.
- B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.
- C. Installer Qualifications: Company specializing in performing tile installation, with minimum of 3 years of documented experience and approved by manufacturer.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

#### 1.8 FIELD CONDITIONS

- A. Do not install adhesives and grouts in an unventilated environment.
- B. Maintain ambient and substrate temperature of 50 degrees F during installation of mortar materials.

#### 1.9 EXTRA MATERIALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.
- B. Supply additional 5 percent of each size, color, and surface finish of tile specified.

### PART 2 PRODUCTS

#### 2.1 TILE

- A. Manufacturers: All products by the same manufacturer.
  - 1. Crossville.
  - 2. Dal-Tile Corporation: [www.daltile.com](http://www.daltile.com).
  - 3. Florida Tile.
  - 4. Virginia Tile.
  - 5. American Olean.
  - 6. Substitutions: See Section 01 60 00 - Product Requirements.

7. Refer to Finish Key for selections

## 2.2 SETTING MATERIALS & ACCESSORIES

### A. ADHESIVE MATERIALS

1. Organic Adhesive: ANSI A136.1, thin set bond type; use Type I in areas subject to prolonged moisture exposure.
2. Epoxy Adhesive: ANSI A118.3, thin set bond type.

### B. MORTAR MATERIALS

1. Mortar Bed Materials: Proportioned in accordance with applicable code.
  - a. Portland cement: ASTM C150, type 1, gray or white.
  - b. Sand: ASTM C144, fine.
  - c. Latex additive: As approved.
  - d. Hydrated Lime: ASTM C207, Type S.
  - e. Water: Clean and potable.
2. Mortar Bond Coat Materials for Thin-Set Installations:
  - a. Custom Building Products, Complete Contact RS Fortified Mortar: ANSI A118.4
  - b. Dry-Set Portland Cement type: ANSI A118.1.
  - c. Latex-Portland Cement type: ANSI A118.4.
  - d. Epoxy: ANSI A118.3. Use epoxy grout.

### C. GROUTS

1. Urethane Grout: ANSI A118.3 chemical resistant and water-cleanable urethane grout. Mapei Keracolor S or equal.
2. Epoxy Grout: ANSI A118.3, chemical resistant and water cleanable epoxy grout. Mapei Kerapoxy or equal.
  - a. Color(s): Selected by Architect from manufacturer's full line of colors.

### D. TRANSITION & EDGE PROTECTION STRIPS:

1. Location: Ceramic to Concrete Floor.
  - a. Material: Stainless Steel
  - b. Type: Butt type metal edge for concealed anchorage.
  - c. Product: Schluter Systems "Reno-U"
2. Movement and Control Joints:
  - a. Locations: Control Joints as required for movement as described in paragraph 3.3 Installation.
    - 1) Material: Side sections made of rigid, recycled PVC; movement zone made of soft CPE or soft PVC.
    - 2) Product: Schluter Systems "Dilex".
3. Exterior corners where bull-nose tile is not available.
  - a. Material: Aluminum, color selected by Architect from Manufacturer's full line of colors.
  - b. Type: Symmetrically rounded butt type metal edge for concealed anchorage.
  - c. Installation: Extend full height of tile installation; both wainscot and full height.
  - d. Product: Schluter Systems "Rondec".

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify surfaces are ready to receive work.

### 3.2 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- D. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.
- E. Place edge strips at exposed tile edges.

### 3.3 INSTALLATION - GENERAL

- A. Install tile, and grout in accordance with applicable requirements of ANSI A108.1A thru A108.13, manufacturer's instructions, and TCNA (HB) recommendations.
- B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings. Arrange pattern so that a full tile or joint is centered on each wall and that no tile less than 1/2" width is used.
- C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- D. Align wall tile joints with floor tile joints.
- E. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.
  - 1. Ceramic Tile: 3/16 inch.
- F. Form internal angles coved and external angles bull nosed.
- G. Install ceramic accessories rigidly in prepared openings.
- H. Sound tile after setting. Replace hollow sounding units.
- I. Keep control and expansion joints free of mortar, grout, and adhesive.
- J. Keep all expansion joints free of adhesive or grout. Provide movement joints in accordance with TCA Handbook Movement Joint Design Essentials EJ171-07.
  - 1. Provide interior control joints in tiled surfaces at 20'-25' in each direction.
  - 2. Provide interior control joints in tiled surfaces exposed to direct sunlight or moisture at 8' to 12' in each direction.
  - 3. Provide movement joints where tile work abuts restraining surfaces, including perimeter walls, dissimilar floors, curbs, columns, pipes, door and window frames and where changes occur in backing materials.
  - 4. Joints through tilework directly over structural joints must never be narrower than the structural joint.
  - 5. Apply sealant to joints.
- K. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- L. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.

- M. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.
- N. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.
- O. When installation requires varying tile thickness due to patterning, build up thin set so that the entire installation is flush.
- P. Seal all sanded and un-sanded grout, with the exception of epoxy grout, per grout manufacturer's installation instructions.

#### 3.4 INSTALLATION - FLOORS - THIN-SET METHODS

- A. Over interior concrete substrates, install in accordance with TCA Handbook Method F113, dry-set or latex-portland cement bond coat, with standard grout, unless otherwise indicated.
  - 1. In toilet rooms install in accordance with TCA Handbook Method F122, with latex-portland cement grout.
  - 2. Where epoxy bond coat and grout are indicated, install in accordance with The Tile Council of North America Handbook Method F131.

#### 3.5 INSTALLATION - WALL TILE

- A. Over gypsum wallboard on wood or metal studs install in accordance with TCA Handbook Method W243, thin set with dry-set or latex portland cement mortar bond coat.
- B. Over interior concrete and masonry install in accordance with The Tile Council of North America Handbook Method W202, dry-set or latex-portland cement mortar bond coat.

#### 3.6 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final Cleaning.
- B. Clean tile and grout surfaces.

#### 3.7 PROTECTION

- A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.
- B. Do not permit traffic over finished floor surface for 4 days after installation.

#### 3.8 SCHEDULE

- A. Refer to finish Key and Schedule.

END OF SECTION

SECTION\_09 51 00  
ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
  - 1. Acoustical panel ceilings.
  - 2. Suspension systems and trim for ceilings.

1.2 SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For ceiling tile components with factory-applied color finishes.
- C. Product Test Reports: For each acoustical panel ceiling, for tests performed by manufacturer and witnessed by a qualified testing agency.
- D. Maintenance Data: Provide manufacturer's information for maintaining and cleaning finished units.
- E. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Acoustical Ceiling Panels: Full-size panels equal to 2 percent of quantity installed of each type of ceiling tile.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension-system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
  - 1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Flame-Spread Index: Comply with ASTM E 1264 for Class B materials.

### 2.2 ACOUSTICAL PANELS, GENERAL

- A. Source Limitations:
  - 1. Acoustical Ceiling Panel: Obtain each type from single source from single manufacturer.
  - 2. Suspension System: Obtain each type from single source from single manufacturer.
- B. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances unless otherwise indicated.
  - 1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches away from test surface according to ASTM E 795.
- C. Acoustical Panel Colors and Patterns: Match appearance characteristics indicated for each product type.
  - 1. Where appearance characteristics of acoustical panels are indicated by referencing pattern designations in ASTM E 1264 and not manufacturers' proprietary product designations, provide products selected by Professional from each manufacturer's full range that comply with requirements indicated for type, pattern, color, light reflectance, acoustical performance, edge detail, and size.

### 2.3 ACOUSTICAL PANELS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. USG Interiors, Inc.; Subsidiary of USG Corporation.
  - 2. Armstrong World Industries, Inc.
  - 3. CertainTeed Corp.
  - 4. Chicago Metallic Corporation.
- B. ACT-1: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:
  - 1. Armstrong Mesa second Look II Type and Form: Type III, mineral base with painted finish; Form 2, modular.
  - 2. Color: White.
  - 3. Light Reflectance: Not less than 0.85.
  - 4. NRC: Not less than 0.60.
  - 5. CAC: Not less than 35
  - 6. Edge/Joint Detail: Tegular.
  - 7. Thickness: 3/4 inch.
  - 8. Modular Size: 24"X48".

- C. CLG-2: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:
1. Armstrong Kitchen Zone or equal.
  2. Type and Form: Type IV, mineral base with painted finish; Form 2, Pattern G, modular.
  3. Color: White.
  4. CAC: Not less than .33.
  5. Edge/Joint Detail: Square.
  6. Thickness: 5/8 inch.
  7. Modular Size: 24"X48".

#### 2.4 SUSPENSION SYSTEMS, GENERAL

- A. Recycled Content: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
- B. Metal Suspension-System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635/C 635M.
1. High-Humidity Finish: Comply with ASTM C 635/C 635M requirements for "Coating Classification for Severe Environment Performance".
- C. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
- D. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
  2. Stainless-Steel Wire: ASTM A 580/A 580M, Type 304, nonmagnetic.
  3. Nickel-Copper-Alloy Wire: ASTM B 164, nickel-copper-alloy UNS No. N04400.
  4. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.135-inch- diameter wire.

#### 2.5 METAL SUSPENSION SYSTEM

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Donn.
  2. USG Interiors, Inc.; Subsidiary of USG Corporation.
  3. Armstrong World Industries, Inc.
  4. CertainTeed Corp.
  5. Chicago Metallic Corporation.
- B. Wide-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, not less than G30 coating designation; with prefinished 15/16-inch- wide metal caps on flanges.
1. Structural Classification: Heavy-duty system.
  2. End Condition of Cross Runners: Override (stepped) type.
  3. Face Design: Flat, flush.
  4. Cap Material: Steel or aluminum cold-rolled sheet.
  5. Cap Finish: Painted white.

2.6 METAL EDGE MOLDINGS AND TRIM

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Donn.
  - 2. Armstrong World Industries, Inc.
  - 3. CertainTeed Corp.
  - 4. Chicago Metallic Corporation.
  - 5. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.
  - 1. Provide manufacturer's standard edge moldings that fit acoustical panel edge details and suspension systems indicated and that match width and configuration of exposed runners unless otherwise indicated.
  - 2. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.
  - 3. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
- C. Hold-down clips: Provide two hold down clips at each ceiling tile located within ten feet of an exterior door opening.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.
- B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and comply with layout shown on reflected ceiling plans.

3.3 INSTALLATION

- A. General: Install acoustical panel ceilings to comply with ASTM C 636/C 636M and seismic design requirements indicated, according to manufacturer's written instructions and Cisca's "Ceiling Systems Handbook."



- B. Suspend ceiling hangers from building's structural members and as follows:
  - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
  - 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.
  - 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
  - 4. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
  - 5. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
  - 6. Do not attach hangers to steel deck tabs.
  - 7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
  - 8. Space hangers not more than 48 inches o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
  - 9. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
  
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms.
  
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.
  - 1. Screw attach moldings to substrate at intervals not more than 16 inches o.c. and not more than 3 inches from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely.
  - 2. Do not use exposed fasteners, including pop rivets, on moldings and trim.
  
- E. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
  
- F. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.
  - 1. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension-system runners and moldings.
  - 2. For reveal-edged panels on suspension-system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
  - 3. For reveal-edged panels on suspension-system members with box-shaped flanges, install panels with reveal surfaces in firm contact with suspension-system surfaces and panel faces flush with bottom face of runners.

4. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.

3.4 CLEANING

- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION

SECTION 09 90 00  
PAINTING AND COATING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints, stains, varnishes, and other coatings.
- C. Materials for back-priming woodwork.
- D. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
  - 1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
  - 2. Mechanical and Electrical:
    - a. In finished areas, do not paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
    - b. In all areas, paint shop-primed items.
    - c. Paint mechanical system louvers.
    - d. Outdoors, paint all equipment that is exposed to weather or to view, excluding that which is factory-finished.
- E. Do Not Paint or Finish the Following Items:
  - 1. Insulated and exposed pipes unless otherwise indicated
  - 2. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
  - 3. Items indicated to receive other finishes.
  - 4. Items indicated to remain unfinished.
  - 5. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
  - 6. Floors, unless specifically so indicated.
  - 7. Glass.
  - 8. Concealed pipes, ducts, and conduits.

1.2 RELATED REQUIREMENTS

- A. Section 05 50 00 - Metal Fabrications: Shop-primed items.
- B. Section 08 11 13 – Hollow Metal Doors and Frames.
- C. Section 09 21 16 – Gypsum Board Assemblies.
- D. Section 09 00 00 - Finish Schedule: List of manufacturer's and products for painted finishes.

1.3 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this section.

1.4 REFERENCE STANDARDS

- A. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2011a.
- B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.

- C. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2010.
- D. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials; 2006.
- E. PDCA (MAN) - Architectural Specification Manual; 1986.
- F. SSPC (PM1) - Good Painting Practice: SSPC Painting Manual, Vol. 1; Society for Protective Coatings; Fourth Edition.
- G. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Current Edition, Including All Revisions.

#### 1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on all finishing products, including VOC content.
  - 1. Submit a list of comparable materials, including identifying product names, numbers, and catalogue data sheets.
- C. Samples: Submit three painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded. Submit on appropriate substrate material, 9 x 12 inch in size.
- D. Manufacturer's Instructions: Indicate special surface preparation procedures.
- E. Notify Architect in writing of any anticipated problems that might arise from using specified coating systems with substrates.
- F. Upon request from other trades, furnish information on characteristics of finish material proposed for use, to ensure compatible prime coats are used.
- G. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. Section 01 70 00 - Execution and Closeout requirements: Spare parts and maintenance products.
  - 2. Extra Paint and Coatings: 1 gallon of each color and finish; store where directed.
  - 3. Label each container with color, type, texture, and room locations in addition to the manufacturer's label.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum ten years documented experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum five years documented experience.

#### 1.7 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this section.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- C. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- D. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

#### 1.9 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- D. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

#### 1.10 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties.
- B. Furnish five year manufacturer warranty for paints and coatings.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- B. Manufacturers: Paints, Transparent Finishes, Stain, Primer Sealers, Block Filler and Field Catalyzed Coatings:
  - 1. Benjamin Moore & Co: [www.benjaminmoore.com](http://www.benjaminmoore.com).
  - 2. Sherwin Williams: [www.sherwin-williams.com](http://www.sherwin-williams.com)
- C. Substitutions: See Section 01 60 00 - Product Requirements.

#### 2.2 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
  - 1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
  - 2. Supply each coating material in quantity required to complete entire project's work from a single production run.
  - 3. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Flammability: Comply with applicable code for surface burning characteristics.

## 2.3 ACCESSORY MATERIALS

- A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- D. Test shop-applied primer for compatibility with subsequent cover materials.
- E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
  - 1. Gypsum Wallboard: 12 percent.
  - 2. Plaster and Stucco: 12 percent.
  - 3. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
  - 4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
  - 5. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.
  - 6. Concrete Floors and Traffic Surfaces: 8 percent.

### 3.2 PREPARATION

- A. Surfaces: Correct defects and clean surfaces capable of affecting work of this section. Remove or repair existing coatings exhibiting surface defects. Patch, repair and sand smooth all cracks, protrusions and blemishes in the surface of existing substrates. Remove all unused accessories such as nails, hooks and fasteners.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces, with shellac, that might cause bleed through or staining of topcoat.
- E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
- G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

- H. Back-prime paneling on interior partitions only where masonry, plaster, or other wet wall construction occurs on backside.
- I. Concrete Floors and Traffic Surfaces to be Painted: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid-alkali balance is achieved. Allow to dry. Follow product manufacturer's recommendations for floor preparation methods.
- J. Un-corroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing, grinding, or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.
- K. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
- L. Interior Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.
- M. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

### 3.3 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.
- D. Prime concealed surfaces of interior and exterior woodwork with primer paint.
- E. Prime concealed surfaces of interior wood surfaces scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with thinner.
- F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- G. Sand wood and metal surfaces lightly between coats to achieve required finish.
- H. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- I. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- J. Finishing Mechanical and Electrical Equipment:
  - 1. Refer to Section 22 05 53, Section 23 05 53, Section 26 05 53 and Section 27 05 53 for schedule of color coding and identification banding of equipment, duct work, piping and conduit. When schedule is not identified consult Architect/Engineer for schedule.
  - 2. Paint shop primed equipment.
  - 3. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
  - 4. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.

5. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

K. General Preparation For Floor Coatings:

1. Surface Preparation: Remove all surface contamination, loose or weakly adherent particles, laitance, grease, oil, curing compounds, paint, dust and debris.
2. Prepare surface as directed by General Polymers Guideline instructions for concrete surface preparation Form G-1.
3. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions by using the following methods as recommended by the floor coating manufacturer.
  - a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with application of flooring only after substrates have maximum moisture-vapor-emission rate as required in manufacturer's instructions.
  - b. Perform plastic sheet test, ASTM D 4263. Proceed with application only after testing indicates absence of moisture in substrates.
  - c. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a percent relative humidity level measurement as noted acceptable by floor manufacturer.
4. Alkalinity and Adhesion Testing: Verify that concrete substrates have pH within acceptable range. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.
5. Provide Sherwin Williams AquaArmor MCS Moisture Control System Penetron VB 225 Moisture Vapor Emissions Reduction System, or equal product at locations where concrete slab moisture level is not acceptable at time of scheduled floor coating installation.
6. Materials: Mix components and prepare materials according to flooring manufacturer's written instructions.
7. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.
8. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written instructions.
9. Applications: Install floor coating over properly prepared concrete surface in strict accordance with the manufacturer's directions.

3.4 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection.
- B. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

3.5 CLEANING

- A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.
- B. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.6 SCHEDULE - EXTERIOR SURFACES: ALL MATERIALS ARE BASED ON SHERWIN WILLIAMS UNLESS NOTED OTHERWISE. PROVIDE EQUAL PRODUCTS BY PPG WHERE PPG PAINT COLORS ARE SCHEDULED.

- A. Steel - Exposed steel lintels, Overhead doors, Frames, other Ferrous metal:
  1. One coat Kem Bond HS Primer (B50 Series) DFT.



2. Two coats Steel-Master 9500 Silicone Alkyd (B56-300 Series).
  3. Application: Preparation and prime coat is to be applied in factory by steel fabricator.
- B. Steel - Galvanized:
1. Two coats of Sher-Cryl HPA High Performance Acrylic (B66-300 Series) @ 2.5-4.0 MDFT.
  2. Application: Preparation and prime coat is to be applied in factory by fabricator.
- C. Galvanized Steel: Finish all surfaces exposed to view, except noted otherwise.
- 3.7 SCHEDULE - INTERIOR SURFACES: ALL MATERIALS ARE BASED ON SHERWIN WILLIAMS UNLESS NOTED OTHERWISE..
- A. Concrete Floors :
1. Green Umbrella – GreenIce Cure System.
  2. Provide GreenIce Start and GreenIce Stop.
    - a. Color: Clear.
    - b. Slip Resistance: Provide slip resistant finish in Restroom 105 and Restroom 106. Provide aluminum oxide or polypropylene beads at a rate of 1 pounder to every 3 gallons of floor sealer..
- B. Steel and Miscellaneous Metal - Steel access doors and frames, hollow metal doors and frames, all new removable mullions, stair railings, hollow metal window frames:
1. One coat Kem Bond HS Primer (B50 Series) @ 2.5-5.0 MDFT.
  2. Two coats DTM Acrylic Semi-Gloss Coating (B66-200) @ 2.5-5.0 MDFT per coat.
- C. Galvanized Metal: Exposed miscellaneous metal, exposed ducts, conduits, mechanical and electrical devices.
1. One coat DTM Acrylic Primer/Finish (B66W1) @ 2.5-5.0 MDFT.
  2. Two coats DTM Acrylic Semi-Gloss Coating (B66-200) @ 2.5-4.0 MDFT per coat.
- D. Gypsum Board and Plaster Walls:
1. All interior gypsum board and plaster wall surfaces for a painted finish. Inspect per Article
    - a. 3.01. (Spot prime all joints and spots with primer first)
    - b. One coat Harmony Low Odor Primer (B11) DFT- 1.0.
    - c. Two coats Harmony "0 VOC - Silica Free - Antimicrobial" Latex Eggshell (B9) @ 1.6 MDFT per coat.
- E. Wood – Semi-Transparent Finish:
1. One coat Sansin Purity Stain.

END OF SECTION



## SECTION 10 14 00

### SIGNAGE

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes the following:
  - 1. Interior unframed signs with embossed face.
  - 2. Building truss identification signs.

##### 1.2 DEFINITIONS

- A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

##### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication and installation details for signs.
  - 1. Show sign mounting heights, locations of supplementary supports to be provided, and accessories.
  - 2. Provide message list, typestyles, graphic elements, including tactile characters and Braille, and layout for each sign.
- C. Color Selection: Manufacturer's color charts showing the full range of colors available for the following:
  - 1. Acrylic sheet.
  - 2. Type face colors.
- D. Sample: Provide sample of specified material, full size samples for unframed embossed signs and 4"X6" minimum aluminum signs showing material type and quality of product.

##### 1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.
- B. Source Limitations for Signs: Obtain each sign type indicated from one source from a single manufacturer.
- C. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

##### 1.5 COORDINATION

- A. Coordinate placement of anchorage devices with templates for installing signs.

## PART 2 - PRODUCTS

### 2.1 MATERIALS – INTERIOR PANEL SIGNS

- A. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).
- B. Interior unframed Signs: Provide smooth sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner, complying with the following requirements:
  - 1. Acrylic Sheet: 0.080 inch thick.
  - 2. Edge Condition: Beveled.
  - 3. Corner Condition: Rounded to radius indicated.
  - 4. Mounting: Unframed.
    - a. Wall mounted with concealed anchors or two-face tape.
    - b. Manufacturer's standard anchors for substrates encountered.
  - 5. Color: As selected by Professional from manufacturer's full range.
  - 6. Tactile Characters: Characters and Grade 2 Braille raised 1/32 inch above surface with contrasting colors.
- C. Tactile and Braille Sign: Manufacturer's standard process for producing text and symbols complying with ADA-ABA Accessibility Guidelines and with ICC/ANSI A117.1. Text shall be accompanied by Grade 2 Braille. Produce precisely formed characters with square-cut edges free from burrs and cut marks; Braille dots with domed or rounded shape.
  - 1. Panel Material: Opaque acrylic sheet.
  - 2. Raised-Copy Thickness: Not less than 1/32 inch.
- D. Colored Coatings for Acrylic Sheet: For copy and background colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and are UV and water resistant for five years for application intended.
  - 1. Color: As selected by Professional from manufacturer's full range.

### 2.2 TRUSS IDENTIFICATION SIGNS

- A. Provide truss identification sign at door locations noted below. Coordinate exact locations with Architect. Adhere all signs to door or door glass.
  - 1. 101-1
  - 2. 101-5
  - 3. 103-2
- B. Signs identifying the existence of truss construction shall consist of a circle 6 inches in diameter, with a stroke width of 1/2 inch. The sign background shall be reflective white in color. The circle and contents shall be reflective red in color, conforming to Pantone matching system (PMS) #187. Signs shall be permanent non-fading sticker or decal.
- C. Provide interior mounted sticker/decals at aluminum storefront exits, exterior mounted sticker/decals at hollow metal door locations.
- D. Signs shall contain the roman alphanumeric designation of the construction type of the building, in accordance with the provisions for the classification of types of construction set forth in section 602 of the International Building Code (see 19 NYCRR Part 1221), and an alphabetic designation for the structural components that are of truss construction, as follows:
  - 1. "IV" shall mean heavy timber construction.
  - 2. "R" shall mean roof truss framing.
- E. The construction type designation shall be placed at the twelve o'clock position over the structural component designation, which shall be placed at the six o'clock position.

## 2.3 FABRICATION

- A. General: Provide manufacturer's standard signs of configurations indicated.
  - 1. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.

## 2.4 FINISHES, GENERAL

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## 2.5 ACRYLIC SHEET FINISHES

- A. Colored Coatings for Acrylic Sheet: For copy and background colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and that are UV and water resistant for five years for application intended.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Verify that items, including anchor inserts, are sized and located to accommodate signs.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

- A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.
  - 1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
  - 2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches of sign without encountering protruding objects or standing within swing of door.
  - 3. Locate sign 4'-0" from finished floor elevation to bottom of sign.
- B. Wall-Mounted Signs: Comply with sign manufacturer's written instructions except where more stringent requirements apply.
  - 1. Two-Face Tape: Mount signs to smooth, nonporous surfaces. Do not use this method for vinyl-covered or rough surfaces.

3.3 CLEANING AND PROTECTION

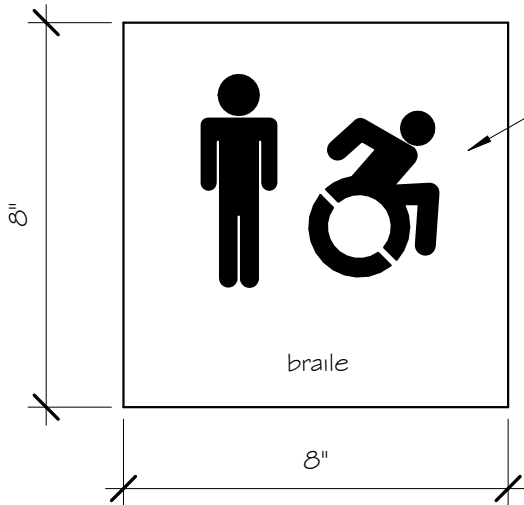
- A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until Substantial Completion.

3.4 SCHEDULE:

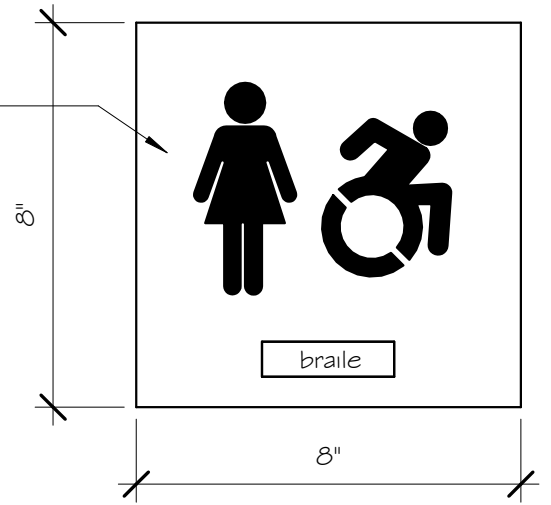
- A. Provide interior panels signs at the following locations:

	ROOM	TEXT	SIGN TYPE
1.	101	Fire Evacuation	4
2.	101	Maximum Occupancy	5
3.	103	Fire Evacuation	4
4.	105	Universal Male Symbol	1
5.	106	Universal Female Symbol	2
6.	104	Housekeeping	3

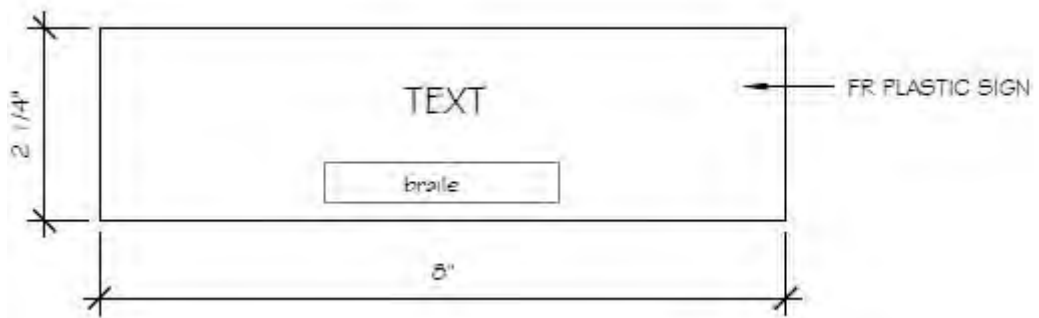
END OF SECTION



SIGN TYPE 1  
(MENS RESTROOM)



SIGN TYPE 1  
(WOMENS RESTROOM)



SIGN TYPE 3  
TEXT: HOUSEKEEPING

DRAWING SCALE  
**NOT TO SCALE**

ISSUE DATE:  
**4-15-2024**

PROJECT NO.  
**23-111**

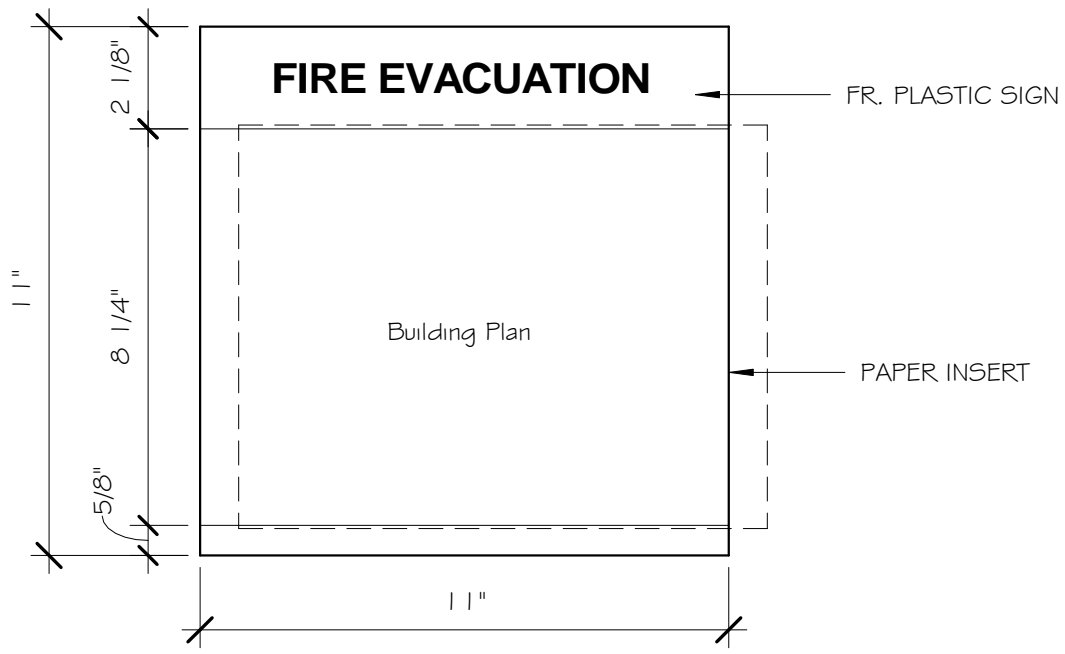
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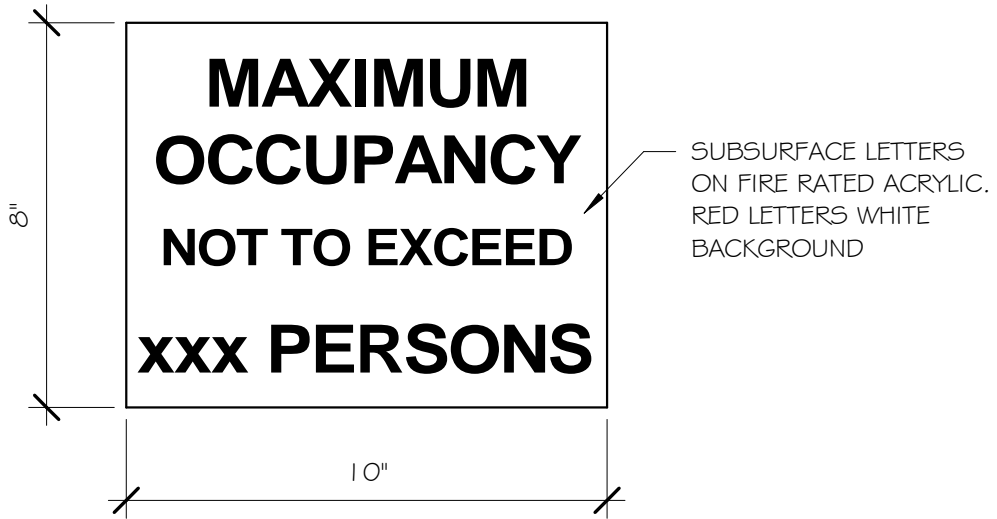
PROJECT  
TIOGA DOWNS RACETRACK, LLC  
RECEPTION CENTER  
2384 WEST RIVER ROAD  
NICHOLS, NEW YORK 13812

TITLE OF DRAWING  
**SIGNAGE**

**AJH DESIGN**  
111 EAST 14TH STREET  
ELMIRA HEIGHTS, NEW YORK 14903  
PH: 607.737.4638 FAX: 607.767.6115



SIGN TYPE 4



SIGN TYPE 5

DRAWING SCALE  
**NOT TO SCALE**  
 ISSUE DATE:  
**4-15-2024**  
 PROJECT NO.  
**23-111**  
 DRAWING NO.

**2**

PROJECT  
 TIOGA DOWNS RACETRACK, LLC  
 RECEPTION CENTER  
 2384 WEST RIVER ROAD  
 NICHOLS, NEW YORK 13812

TITLE OF DRAWING  
**SIGNAGE**

**AJH DESIGN**  
 111 EAST 14TH STREET  
 ELMIRA HEIGHTS, NEW YORK 14903  
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## SECTION 10 21 13.19

### PLASTIC TOILET COMPARTMENTS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

###### A. Section Includes:

1. Plastic toilet compartment partitions for following applications:
  - a. Toilet enclosures.
  - b. Urinal screens.

###### B. Related Requirements:

1. Section 05 50 00 – Metal Fabrications, for miscellaneous structural and support metal components required to secure compartments.
2. Section 06 10 00 - Rough Carpentry, for compartment anchorage to frame walls.
3. Section 09 21 16 – Gypsum Board Assemblies.

##### 1.2 REFERENCES

###### A. ASTM International (ASTM):

1. ASTM A 240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
2. ASTM A 666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
3. ASTM A 743/A 743M - Standard Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application.
4. ASTM B 86 - Standard Specification for Zinc and Zinc-Aluminum (ZA) Alloy Foundry and Die Castings.
5. ASTM B 221 - Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
6. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

###### B. International Code Council (ICC)/American National Standards Institute (ANSI):

1. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities, as applicable to toilet compartments designated as accessible.

###### C. United States Department of Justice:

1. ADA - Americans with Disabilities Act, Excerpt from 28 CFR Part 36 - ADA Standards for Accessible Design.

###### D. GREENGUARD Environmental Institute (GREENGUARD):

1. GREENGUARD certified low emitting products.

##### 1.3 SUBMITTALS

###### A. Product Data: Manufacturer's data sheets for each type of product indicated. Include fabrication details, description of materials and finishes.

1. Product Test Reports: When requested by Architect, submit documentation by qualified independent testing agency indicating compliance of products with requirements.

- B. Shop Drawings: Include overall product dimensions, floor plan, elevations, sections, details, and attachments to other work. Include choice of options with details.
- C. Samples: Furnish samples of manufacturer's full range of colors for initial selection.
  - 1. Size: 2 by 2 inch (52 by 52 mm) minimum, in type of finish specified.
- D. Warranty: Sample of warranty.
- E. Maintenance and cleaning instructions.

#### 1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum [5] years experience in the manufacture of toilet compartments.
- B. Installers Qualifications: Experienced Installer regularly engaged in installation of toilet compartments for minimum 3 years.
- C. Source Limitations: Obtain toilet compartment components and accessories from single manufacturer.
- D. Accessibility Requirements: Comply with requirements of ICC/ANSI 117.1, and with requirements of authorities having jurisdiction.
- E. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Smoke-Developed Index: 450.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver toilet compartments to site until building is enclosed and HVAC systems are in operation.
  - 1. Deliver toilet compartments in manufacturer's original packaging.
  - 2. Store in an upright condition.

#### 1.6 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:
  - 1. Plastic Toilet Partitions: Against corrosion, breakage, and delamination: 15 years.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products of, but not limited to the following:
  - 1. The Mills Company
  - 2. Hini-Hiders
  - 3. Scranton Products
  - 4. General Partitions
  - 5. Bradley Corporation

## 2.2 MATERIALS

- A. Plastic Panels: High density polyethylene (HDPE) suitable for exposed applications, waterproof, non-absorbent, and graffiti-resistant textured surface, Class C.
  - 1. Provide panels with minimum 30 percent pre-consumer recycled content.
- B. Zinc Aluminum Magnesium and Copper Alloy (Zamac): ASTM B 86.
- C. Stainless Steel Sheet: ASTM A 240 or A 666, 300 series.
- D. Stainless Steel Castings: ASTM A 743/A 743M.
- E. Aluminum: ASTM B 221.

## 2.3 PLASTIC TOILET COMPARTMENTS

- A. Toilet Compartment Type:
  - 1. Overhead braced.
    - a. Basis of Design Product: Bradley, Mills Partitions, Sentinel, Series 400.
    - b. Extend toilet compartment side panels to 8 inches from finished floor.
- B. Floor and ceiling anchored.
- C. Urinal Screen Style:
  - 1. Wall hung with brackets:
    - a. Basis of Design Product: Bradley, Mills Partitions, Model No. 4.
- D. Door, Panel, and Pilaster Construction, General: HDPE, with a 3/16" (4.8mm) radius edge.
  - 1. Provide exposed surfaces free of pitting, visible seams and fabrication marks, stains, or other imperfections.
  - 2. Provide aluminum heat sink at bottom edge of panels and doors.
- E. Door Construction: 1 inch (25 mm) thick.
- F. Panel Construction: 1 inch (25 mm) thick.
- G. Pilaster Construction: 1 inch (25 mm) thick.
- H. Headrail: Extruded anodized aluminum headrail with anti-grip profile. Clamps around pilaster and is secured to the wall with stainless steel brackets.
- I. Shoes: 4 inches (76 mm) high minimum, 300 series stainless steel with No. 4 satin brushed finish.
- J. Urinal-Screen Construction: Matching toilet compartment panel construction
- K. Brackets (Fittings):
  - 1. Full-Height (Continuous) Type: Manufacturer's standard design; aluminum.
- L. Plastic Panel Finish: Manufacturer's standard impregnated finish, with two colors in each room.
  - 1. Color: As selected by Architect from manufacturer's full range.

## 2.4 HARDWARE

- A. Hardware, Heavy Duty: Manufacturer's heavy-duty stainless steel, including stainless steel tamper-resistant fasteners:
1. Hinges: Self-closing continuous spring-loaded type 8 inch wrap-around type, adjustable to hold doors open at any angle up to 90 degrees, with emergency access by lifting door.
  2. Latch and Keeper: Surface-mounted slide latch with flat rubber-faced combination door strike and keeper, with provision for emergency access, meeting requirements for accessibility at accessible compartments.
  3. Coat Hook: Combination hook and rubber-tipped stop, sized to prevent door from hitting compartment-mounted accessories. Provide wall bumper where door abuts wall. Provide formed L-shaped hook without stop at outswing doors. Mount with stainless steel through-bolts.
  4. Door Pull: Standard unit on outside of inswing doors. Provide pulls on both sides of outswing doors.

## 2.5 FABRICATION

- A. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.
- B. Door Size and Swings: Unless otherwise indicated, provide 24-inch- (610-mm-) wide, in-swinging doors for standard toilet compartments and 36-inch- (914-mm-) wide, out-swinging doors with a minimum 32-inch- (813-mm-) wide clear opening for compartments designated as accessible.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine work area to verify that measurements, substrates, supports, and environmental conditions are in accordance with manufacturer's requirements to allow installation.
1. Proceed with installation once conditions meet manufacturer's requirements.

### 3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
- B. Install toilet partitions and screens in spaces with operating, temperature controlled HVAC systems. Shield partitions and screens from direct sunlight.
- C. Clearances: Install with clearances indicated on Drawings. Where clearances are not indicated, allow maximum 1/2 inch (13 mm) between pilasters and panels, and 1 inch (25 mm) between panels and walls.
- D. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel. Locate wall brackets so holes for wall anchors occur in masonry or tile joints. Align brackets at pilasters with brackets at walls.

3.3 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 15 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

3.4 FINAL CLEANING

- A. Remove packaging and construction debris and legally dispose of off-site.
- B. Clean partition and screen surfaces with materials and cleansers in accordance with manufacturer's recommendations.

END OF SECTION



DOCUMENT 10 28 00

TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Accessories for toilet rooms. .
- B. Grab bars.

1.2 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Placement of concealed wood blocking and backing plates for support of accessories.
- B. Section 09 21 16 – Gypsum Board Assemblies.

1.3 REFERENCE STANDARDS

- A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.
- B. ASTM A167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip; 1999 (Reapproved 2009).
- C. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service; 2015.
- D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- E. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.
- F. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium; 2011e1.
- G. ASTM C1036 - Standard Specification for Flat Glass; 2011e1.
- H. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror; 2008 (Reapproved 2013).
- I. GSA CID A-A-3002 - Mirrors, Glass; U.S. General Services Administration; 1996.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the work with the placement of internal wall reinforcement, concealed ceiling supports, and reinforcement of toilet partitions to receive anchor attachments.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

- B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.
- C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Toilet Accessories:
  - 1. Bradley Corporation: [www.bradleycorp.com](http://www.bradleycorp.com).
  - 2. American Specialties, Inc (ASI): [www.americanspecialties.com](http://www.americanspecialties.com).
  - 3. Bobrick Washroom Equipment, Inc.: [www.bobrick.com](http://www.bobrick.com)
  - 4. Koala.
  - 5. Substitutions: Section 01 60 00 - Product Requirements.
- B. All items of each type to be made by the same manufacturer.

### 2.2 MATERIALS

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
  - 1. Grind welded joints smooth.
  - 2. Fabricate units made of metal sheet of seamless sheets, with flat surfaces.
- B. Keys: Provide 2 keys for each accessory.
- C. Stainless Steel Sheet: ASTM A666, Type 304.
- D. Stainless Steel Tubing: ASTM A269/A269M, Type 304 or 316.
- E. Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.
- F. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
- G. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.
- H. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

### 2.3 TOILET ROOM ACCESSORIES

- A. Toilet Paper Dispenser: Double roll, surface mounted bracket type. To be provided by owner, installed by contractor.
- B. Mirrors: 1/4" thick tempered glass mirror.
  - 1. Size: As identified on drawings. Where size is not identified provide height from top of lavatory to bottom of ceiling and width full length of lavatory counter.
  - 2. Frameless.
  - 3. Product to be ADA compliant.



- C. Grab Bars: Stainless steel, 1-1/2 inches outside diameter, minimum 0.05 inch wall thickness, nonslip grasping surface finish, concealed flange mounting; 1-1/2 inches clearance between wall and inside of grab bar.
  - 1. Length and configuration: As indicated on drawings.
  - 2. Soap Dispenser: Surface mounted. Provided by owner, installed by contractor.
  
- D. Paper Towel Dispenser: High impact, surface mounted, plastic cabinet with side mounted lever operated dispensing mechanism.
  - 1. Provided by owner, installed by contractor.
  
- E. Baby Changing Stations:
  - 1. Surface mounted horizontal baby changing stations: Refer to drawings for model number. Provide with external stainless steel bag hook, as manufactured by Koala Kare Products, a Division of Bobrick
    - a) 4. Complies with ADA and ICC A117.1 Accessibility Standards. Complies with ASTM Standard F 2285, Standard Consumer Safety Performance Specification for Diaper Changing Stations for Commercial Use.
    - b) Performance: Unit will deflect less than 1 degree from 90 degrees with a 200 lb. static load placed in the center of the changing surface, has been tested to 300 lbs. Units exceed static load requirements called out by ASTM Standard F 2285, Standard Consumer Safety Performance Specification for Diaper Changing Stations for Commercial Use.
    - c) Bed Surface: injection molded polypropylene with Microban antimicrobial additive, and ISO 22196 tested for efficacy. Surface is contoured, concave and smooth. Bed surface shall be minimum 535sq in
    - d) Dual Cavity Liner Dispenser: injection molded polypropylene with integral spring tab dispenses one liner at a time. Total 50 liner capacity. Equipped with tumbler lock, keyed alike Bobrick restroom accessories.
    - e) External Bag Hook: 18-8, Type 304, 3/4 inch (19mm) diameter, solid stainless steel rod with satin-finish.
    - f) Operation: Concealed pneumatic cylinder providing controlled, slow opening and closing of the changing station bed.
    - g) Frame and Hinge Mechanism: Concealed 11-gauge chassis, will comprise of 1" diameter integral steel-tubing that supports the changing bed and interacts with 11-gauge steel wall mounting bracket to provide steel-on-steel hinge stop. The wall frame shall serve as wall-mounting bracket
    - h) Mounting: Factory-drilled mounting holes (6). Mounting screws included.
    - i) Operation: Concealed pneumatic cylinder providing controlled, slow opening and closing of the changing station bed.
    - j) Hinge Mechanism: Reinforced full-length steel-on-steel hinge.
    - k) Changing Surface: Contoured, concave and smooth, 450 sq. in.
    - l) Safety Straps: Replaceable, snap-lock, nylon protective holding straps.
    - m) Features: No hinge structure exposed on interior or exterior surfaces; two bag hooks; locking built-in dual cavity liner dispenser with 50 liner capacity supplied with 2 keys that are keyed alike to Bobrick Washroom Accessories.
    - n) Instruction Graphics: Universal instruction graphics and safety messages in multiple languages.
    - o) Manufacturer's Warranties: Manufacturer's 5-year warranty for materials and workmanship.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.
- C. Verify that field measurements are as indicated on drawings.
- D. See Section 06 10 00 for installation of blocking, reinforcing plates, and concealed anchors in walls and ceilings.

#### 3.2 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

#### 3.3 INSTALLATION

- A. Install accessories in accordance with manufacturers' instructions in locations indicated on the drawings.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
- D. Mounting Heights and Locations: as indicated on drawings and as required by accessibility regulations (ANSI 117.1).

END OF SECTION

SECTION 10 71 13  
EXTERIOR SUN CONTROL DEVICES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Work in this section shall include the design, fabrication, and installation of cellular PVC and aluminum Trex Pergola open-frame structures as shown in drawings and as specified.

1.02 RELATED SECTIONS

- B. Section 03 30 00 Cast-in-Place Concrete.

1.03 REFERENCES

- A. 2018 International Residential Code for One- and Two-Family Dwellings.
- B. 2018 International Building Code.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- D. ASCE 7-16 - Minimum Design Loads for Buildings and Other Structures.
- E. Aluminum Design Manual 2015.
- F. ASTM B 209, Specification for Aluminum and Aluminum Alloy Sheet and Plate.
- G. ASTM B 221, Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- H. ANSI/AWS D1.2, Structural Welding Code – Aluminum.

1.04 ADMINISTRATIVE REQUIREMENTS

A. SEQUENCING

- 1. Ensure that product selections such as sizing, attachment conditions, and finishes are supplied to the manufacturer so as not to delay the release to fabricate.
- 2. Ensure that site-specific engineering and code requirements are provided to the manufacturer before the engineering services scope begins.
- 3. Ensure that footing plans and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
- 4. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
- 5. Ensure that work surrounding the installation location is substantially complete to prevent interruption of installation of the products in this section.

1.05 SUBMITTALS

A. Submit under provisions of Division 01 - General Requirements

B. Action Submittals

- 1. Specification Sheets: Indicate the basis of design, product sizing, and options selections
- 2. Shop Drawings: Indicate dimensions, locations of members, connections, general construction details, anchorages, method of anchorage, and installation method.
- 3. Samples: Submit material and color selection samples 4 inches X 4 inches size or larger.
- 4. Delegated Design Submittals: Submit engineered shop drawings signed and stamped by a licensed professional engineer employed by the Manufacturer licensed in the project location.

5. Product Cut Sheets
  6. Manufacturer's Warranty
  7. Product Finish Color Chart
  8. Installation Guide
- C. Closeout Submittals
1. Operation and Maintenance Information
  2. Manufacturer's Warranty
- 1.06 QUALITY ASSURANCE
- A. Qualifications
1. Manufacturer: Single source manufacturer for design, engineering, fabrication, and shipping with a minimum of 15 years of experience fabricating cellular PVC and aluminum structures.
  2. Installers: Familiar with the manufacturer's structures and installation techniques.
  3. Licensed Professionals: Professional Engineer to be licensed in the project state.
- 1.07 DELIVERY, STORAGE, AND HANDLING
- A. Delivery and Acceptance Requirements: Upon receipt, all packages and pallets shall be opened and inspected for damage. Any missing or damaged components must be noted on the delivery receipt with the carrier before accepting the shipment.
- B. Storage and Handling Requirements: Upon completion of the inspection, all items shall be repackaged and stored where protected from moisture, dirt, and excessive heat. Do not wrap material so that heat or moisture can become trapped. Ensure that items are level and fully supported and have airflow between parts. Handle materials to protect materials, coatings, and finishes during transportation and installation to prevent damage or staining.
- 1.08 WARRANTY
- A. cPVC Structures 10-Year Limited Commercial Warranty.
- B. ColorLast Finish 20-Year Warranty.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. Trex Pergola cPVC and aluminum structure as indicated on architectural drawings.

### 2.02 MANUFACTURERS

- A. Structureworks, the exclusive manufacturer of Trex Pergola  
3300 Dill Smith Drive Fredericksburg, VA 22408  
877-489-8064, info@structureworks.com, www.structureworks.com

### 2.03 PERFORMANCE DESIGN/CRITERIA

- A. Design structure, including comprehensive engineering analysis by a qualified engineer, using structural performance requirements and design criteria indicated.
- B. Structure shall withstand the effects of gravity loads and the loads and stresses within limits and under conditions indicated, specific to the project location and code requirements, without permanent deformation of canopy components or permanent damage to fasteners and anchors.
- C. Design members to withstand wind loads in accordance with ASCE 7-16 and applicable code.

- D. Design foundations in accordance with applicable code for the specific structure and site conditions.
- E. Design structure for required allowable ground snow load in accordance with applicable code.
- F. Design structure in accordance with applicable fire code and provide data on ASTM E84 testing.

#### 2.04 MATERIALS

- A. cPVC Components: Extruded cellular PVC, solid, sheet, or wrapped around aluminum profiles
- B. Aluminum Components: Extruded aluminum ASTM B221, 6000 series alloy
- C. Aluminum Sheet: ASTM B209, 5000 or 6000 series alloy
- D. Fasteners: 300 or 400 series stainless steel

#### 2.05 FINISHES

- A. Use product in unpainted white finish; no painting is required.
- B. Apply ColorLast finish to product. Specify color: To be selected by Architect.

#### 2.06 ACCESSORIES

- A. All wiring shall be concealed unless otherwise noted.

### PART 3 - EXECUTION

#### 3.01 EXAMINATION

- A. Only begin installation once supporting structures have been properly prepared.
- B. Verify that all concrete, masonry, and roofing work in the vicinity is complete and cleaned.

#### 3.02 INSTALLATION

- A. Install all products true to line, level, and plumb and in accordance with the manufacturer's installation guide.

#### 3.03 CLEANING

- A. Clean all surfaces and restore any marred surfaces to their original condition as approved by the Architect.

#### 3.04 PROTECTION

- A. Protect installed products until completion of the project.
- B. Touchup, repair, or replace damaged products before substantial completion.

END OF SECTION



SECTION 11 52 13  
PROJECTION SCREENS

1.1 SECTION INCLUDES

- A. Front projection screen and controls.

1.2 RELATED SECTIONS

- A. Division 5 - Metal Fabrications: Suspension systems for projection screens.
- B. Section 06 13 00 – Heavy Timber: Timber frame supports for mounting projection screen.
- C. Division 26 for electrical wiring, connections, and installation of remote control switches for electrically operated projection screens.

1.3 REFERENCES

- A. NFPA 70 - National Electrical Code.
- B. NFPA 701-99 - Fire Tests for Flame-Resistant Textiles and Films.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Wiring diagram for electrically operated units.
- D. Shop Drawings: Shop drawings showing layout and types of projection screens. Show the following:
  - 1. Location of screen centerline.
  - 2. Location of wiring connections.
  - 3. Seams in viewing surfaces.
  - 4. Connections to suspension systems.
  - 5. Anchorage details.
  - 6. Accessories.
- E. Samples: For each finish product specified, provide two complete sets of color chips representing manufacturer's full range of available colors and patterns.

1.5 QUALITY ASSURANCE

- A. Single Source Responsibility: Obtain each type of projection screen required from a single manufacturer as a complete unit, including necessary mounting hardware and accessories.
- B. Coordination of Work: Coordinate layout and installation of projection screens with other construction supported by, or penetrating through, ceilings, including light fixtures, HVAC equipment, fire-suppression system, and partitions.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver projection screens until building is enclosed and other construction where screens will be installed is substantially complete.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Protect screens from damage during delivery, handling, storage, and installation.

## 1.7 COORDINATION

- A. Coordinate work with installation of ceilings, walls, electric service power characteristics, and location.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Draper Inc., which is located at: 411 S. Pearl Street P. O. Box 425; Spiceland, IN 47385-0425; Toll Free Tel: 800-238-7999; Tel: 765-987-7999; Fax: 866-637-5611; Email: [request info \(drapercontract@draperinc.com\);](mailto:request info (drapercontract@draperinc.com);)  
Web: <http://www.draperinc.com>
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

### 2.2 FRONT PROJECTION SCREEN CONTROLS

- A. General: All controls are UL Certified.
  - 1. Low voltage 24V control unit with hand held RF remote three button control switch to stop or reverse screen at any point, built-in RF receiver, built-in Video Interface Control trigger for 3V-28V, RS232, and dry contact relays.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify rough-in openings are properly prepared.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.



- B. Install front projection screens with screen cases in position and relationship to adjoining construction as indicated, securely anchored to supporting substrate, and in manner that produces a smoothly operating screen with plumb and straight vertical edges and plumb and flat viewing surfaces when screen is lowered.
- C. Test electrically operated units to verify that screen, controls, limit switches, closure and other operating components are in optimum functioning condition.

#### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION



SECTION 12 20 00  
WINDOW TREATMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Manually operated, roll-up fabric interior window shades including mounting and operating hardware.

1.2 RELATED SECTIONS

- A. Section 06 10 00 - Rough Carpentry.
- B. Section 07 90 05 - Joint Protection.
- C. Section 08 41 13 - Aluminum Framed Entrances and Storefronts.

1.3 REFERENCES

- A. NFPA 701-99 - Fire Tests for Flame-Resistant Textiles and Films.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product specified, including:
  - 1. Preparation instructions and recommendations.
  - 2. Installation and maintenance instructions.
  - 3. Styles, material descriptions, dimensions of individual components, profiles, features, finishes and operating instructions.
  - 4. Storage and handling requirements and recommendations.
  - 5. Mounting details and installation methods.
- B. Shop Drawings: Plans, elevations, sections, product details, installation details, operational clearances and relationship to adjacent work.
- C. Window Treatment Schedule: For all roller shades. Use same room designations as indicated on the Drawings, field verified window dimensions, quantities, type of shade, controls, fabric, and color, and include opening sizes and key to typical mounting details.
- D. Selection Samples: For each finish product specified, two complete sets of shade cloth options and aluminum finish color samples representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, two complete sets of shade components, unassembled, demonstrating compliance with specified requirements. 12"X12" Shade fabric sample, valance, and aluminum finish sample as selected, representing actual product, color, and patterns. Mark face of material to indicate interior faces.
- F. Maintenance Data: Methods for maintaining roller shades, precautions regarding cleaning materials and methods, instructions for operating hardware and controls.
- G. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

## 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Obtain roller shades through one source from a single manufacturer with a minimum of twenty years experience in manufacturing products comparable to those specified in this section.
- B. NFPA Flame-Test: Passes NFPA 701. Materials tested shall be identical to products proposed for use.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver window shades until construction within spaces where shades will be installed is substantially complete.
- B. Deliver products in manufacturer's original, unopened, undamaged containers with labels intact.
- C. Label containers and shades according to Window Shade Schedule.
- D. Store products in manufacturer's unopened packaging until ready for installation.

## 1.7 SEQUENCING

- A. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
- B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

## 1.8 PROJECT CONDITIONS

- A. Install roller shades after finish work and ambient temperature, humidity and ventilation conditions are maintained at levels recommended for project upon completion.

## 1.9 WARRANTY

- A. Hardware and Shade Fabric: Twenty-five year limited warranty.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturers: Manufacturers offering products that may meet the specified requirements include, but are not limited to the following.
  - 1. Draper, Inc. FlexShade Basis of design.
  - 2. Roll A Shade.
  - 3. SWF Contract.
  - 4. The Shade Store.

## 2.2 MANUALLY OPERATED WINDOW SHADES

- A. Manually Operated Window Shades with Independent Control: Manually operated, vertical roll-up, fabric window shade with components necessary for complete installation; Manual FlexShade as manufactured by Draper, Inc. or equal.
1. Operation: Bead chain and clutch operating mechanism allowing shade to stop when chain is released. Designed never to need adjustment or lubrication. Provide limit stops to prevent shade from being raised or lowered too far.
    - a. Clutch mechanism: Fabricated from POM thermoplastic with welded 0.354 inch (9 mm) primary steel post with rotational bearing, overrunning design, and positive mechanical engagement of drive mechanism to tube. Black color. Center bead chain placement for right or left hand operation and accommodates side channel with no adjustment of chain location.
    - b. Bead Chain Hold Down: P-Clip.
  2. Rollers: Extruded aluminum roller tube of appropriate diameter to support shade fabric with minimal deflection.
    - a. Minimum Roller Tube Diameter: 1.56 inches (40 mm).
    - b. Fabric Connection to Roller Tube: Spline fabric/roller attachment system to allow shade fabric to be removed from roller without having to remove roller from brackets.
    - c. Fabric Length: 6 inches (152 mm) greater than window height minimum.
    - d. Bottom Slat: 13/16 inch (20.6 mm) aluminum dowel, encased in bottom hem with heat sealed ends.
    - e. Orientation: Regular from back of roller.
  3. Mounting:
    - a. Endcaps and fascia.
  4. Endcaps: Stamped steel with universal design suitable for mounting to ceiling, wall, and jamb. Provide size compatible with roller size.
    - a. Endcap covers: To match fascia or headbox color.
    - b. Mounted to ceiling/soffit, wall or jamb as window detail permits.
  5. Fascia: L shaped aluminum extrusion to conceal shade roller and hardware.
    - a. Attachment: Snaps onto endcaps without requiring exposed fasteners of any kind. Fascia can be mounted continuously across two or more shade bands. No notching is required.
    - b. Shape: Square Fascia Panel.
    - c. Finish: Powder coat of color selected by Architect from manufacturer's full line of colors.

## 2.3 FABRIC

- A. Light-Filtering Fabrics
1. SheerWeave Series PW4500 by Phifer: Vinyl coated polyester yarn woven into basketweave pattern. Fire rating: NFPA 701 TM#1 (small scale)/California U.S. title 19 (small scale)/British Standard 5867 Type B/ASTM E 84 (Class 1). Bacteria and Fungal Resistance: ASTM G 21 and ASTM G 22. Series PW4500, Average 5 percent open, 14.4 oz/sq yd, .024 inches thick.
  2. Color: Selected by Architect from manufacturer's full line of colors.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Correct unsatisfactory conditions discovered preparation before proceeding.

#### 3.2 PREPARATION

- A. Coordinate requirements for blocking and structural supports to ensure adequate means for installation of window shades.

#### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install roller shades level, plumb, square, and true. Allow proper clearances for window operation hardware.

#### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.
- C. Touch up adjacent surfaces damaged during installation of window treatment.

#### 3.5 SCHEDULES

- A. Provide window treatment at the following aluminum storefront systems locations.
  - 1. 101 Reception Hall Storefront Type W1.
  - 2. 101 Reception Hall Storefront Type W1.
  - 3. 101 Reception Hall Storefront Type W1.
  - 4. 101 Reception Hall Storefront Type W1.
  - 5. 101 Reception Hall Storefront Type W1.
  - 6. 101 Reception Hall Storefront Type W1.
  - 7. 101 Reception Hall Storefront Type W1.
- B. Refer to drawings for locations and size.

END OF SECTION



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