



**Jones Gillam Renz Architects**

---

**Address**

730 N 9th St.  
Salina, KS 67401

1881 Main St., Suite 301  
Kansas City, MO 64108

**Contact**

jgr@jgrarchitects.com  
(785) 827-0386

**Web**

jgrarchitects.com

## **Project Manual**

for

# **USD 305 SALINA SCHOOL DISTRICT HEUSNER ELEMENTARY RESTROOM REMODEL Salina, KS**

**January 31, 2024**

**Project No. 23-3322**



USD 305 SALINA SCHOOL DISTRICT  
HEUSNER ELEMENTARY  
RESTROOM REMODEL  
SALINA, KANSAS

Project No. 23-3322

---

DATE OF DRAWINGS AND SPECIFICATIONS

January 31, 2024

OWNER

USD 305 SALINA SCHOOL DISTRICT  
1511 Gypsum Ave, Salina, KS 67401  
Paul Mensching, Director of Operations  
785 309 4712

ARCHITECT

JONES GILLAM RENZ ARCHITECTS, INC  
Charles A. Renz, Project Architect  
730 N. Ninth Street, Salina, KS 67401  
785 827 0386

MECHANICAL/ELECTRICAL

LST CONSULTING ENGINEERS, INC.  
John Lewis Smith, P.E  
4809 Vue Du Lac Pl, Ste 201, Manhattan, KS 66503  
785 587 8042 Fax 785 587 8039





## Table Of Contents

	<u>Page No.</u>
INVITATION TO BID	INV-1 – INV-2
INFORMATION FOR BIDDERS	INF-1 – INF-2
BID FORM	BF-1 – BF-2
GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION	A201-2017-1 - 39
SUPPLEMENTARY CONDITIONS OF THE CONTRACT	SC-1 – SC-3
LIST OF DRAWINGS	LOD-1
A101-2017 Owner-Contractor Agreement	A101-2017 - 1-8
A101-2017 Exhibit A	Exhibit A – 1-7
ATTACHMENT A – Article 10. – Kansas Acts Against Discrimination	A-1
STATUTORY BOND	SB-1 – SB-2
<b>Division 1 - General Requirements</b>	
Section 01010 General Work Requirements	01010-1 – 01010-3
Section 01019 Special Provisions	01019-1 – 01019-3
Section 01030 Alternates	01030-1 – 01030-2
Section 01270 Unit Prices	01270-1
Section 01351 6 Alteration Project Procedures	013516-1 – 013516-5
Section 01500 Temporary Facilities and Controls	01500-1 – 01500-5
Section 01732 Selective Demolition	01732-1 – 01732-3
<b>Division 2 - Site Work</b>	
Section 02225 Trenching	02225-1 – 02225-2
Section 02260 Excavation Support and Protection	02260-1 – 02260-2
<b>Division 3 – Concrete</b>	
Section 03200 Concrete Reinforcement	03200-1
Section 033000 Cast-In-Place Concrete	033000-1 – 033000-8
<b>Division 4 – Masonry – NOT USED</b>	
<b>Division 5 - Metals</b>	
Section 054000 Cold-Formed Metal Framing	054000-1 – 054000-5
Section 055000 Metal Fabrications	055000-1 – 055000-5
<b>Division 6 - Wood and Plastics</b>	
Section 06114 Wood Blocking	06114-1
Section 06200 Finish Carpentry	06200-1 – 06200-2
Section 06410 Custom Casework	06410-1 – 06410-3
<b>Division 7 - Thermal and Moisture Protection</b>	
Section 07213 Batt Insulation	07213-1 – 07213-2
Section 07900 Joint Sealers	07900-1 – 07900-2
<b>Division 8 - Doors and Windows</b>	
Section 08800 Glazing	08800-1 – 08800-2
<b>Division 9 - Finishes</b>	
Section 09260 Gypsum Board Systems	09260-1 – 09260-2
Section 09306 Floor and Wall Tile	09306-1 – 09306-2
Section 09400 Resinous Flooring	09400-1 – 09400-6
Section 09511 Suspended Acoustical Ceilings	09511-1 – 09511-2
Section 09650 Resilient Flooring	09650-1 – 09650-2
Section 09900 Painting	09900-1 – 09900-4
<b>Division 10 - Specialties</b>	
Section 10160 Solid Color Reinforced Composite Toilet Compartments	10160-1 – 10160-2
Section 10800 Toilet and Bath Accessories	10800-1
Section 10850 Building Specialties	10850-1
<b>Division 11 - 20 Not Used</b>	

## **Table Of Contents**

## **Page No.**

### **Division 22 - Plumbing**

Section 220501	Plumbing Demolition	220501-1
Section 220553	Identification for Plumbing Piping and Equipment	220553-1 – 220553-2
Section 220719	Plumbing Piping Insulation	220719-1 – 220719-3
Section 221005	Plumbing Piping	221005-1 – 221005-10
Section 221006	Plumbing Piping Specialties	221006-1 – 221006-2
Section 224000	Plumbing Fixtures	224000-1 – 224000-2

### **Division 23 - Heating Ventilating and Air Conditioning**

Section 230001	Mechanical Demolition	230001-1
Section 233100	HVAC Ducts and Casings	233100-1 – 233100-3
Section 233700	Air Outlets and Inlets	233700-1 – 233700-2

### **Division 26 - Electrical**

Section 260501	Electrical Demolition	260501-1 – 260501-2
Section 260519	Low-Voltage Electrical Power Conductors and Cables	260519-1 – 260519-5
Section 260526	Grounding and Bonding for Electrical Systems	260526-1 – 260526-4
Section 260529	Hangers and Supports for Electrical Systems	260529-1 – 260529-3
Section 260534	Conduit	260534-1 – 260534-8
Section 260537	Boxes	260537-1 – 260537-5
Section 260553	Identification for Electrical Systems	260553-1 – 260553-7
Section 260923	Lighting Control Devices	260923-1 – 260923-5
Section 262726	Wiring Devices	262726-1 – 262726-4
Section 265100	Interior Lighting	265100-1 – 265100-4

USD 305 Salina School District  
Heusner Elementary  
Restroom Remodel  
Salina, KS

Jones Gillam Renz Architects, Inc  
730 N. 9<sup>th</sup> St.  
Salina, Kansas 67401  
785-827-0386

Project No. 23-3322

## INVITATION TO BID

Sealed Bids, will be received by Paul Mensching, USD 305 Salina School District, Salina, Kansas, for the furnishing of all labor and materials as hereinafter specified for the remodeling of Heusner Elementary Restroom Remodel. **Bid shall be delivered to the office of JGR Architects, 730 N 9<sup>th</sup> St., Salina, KS before Thursday, February 22, 2024 at 2:00 p.m.** at which time the bids will be opened and read aloud. Bids received after this time will not be accepted.

### 1. PROJECT SCOPE

- a. Demolition and renovation at four existing student restrooms
- b. Wall demolition includes removal of lead based glazed masonry units. All federal, state, and local requirements for removal and disposal shall be followed.
- c. New restroom plumbing fixtures and associated piping.
- d. Existing concrete and terrazzo floors to be removed as required for new piping installation.
- e. New epoxy resin floors.
- f. New ceramic/porcelain tile walls.
- g. New toilet partitions.
- h. New suspended ceilings and lights.
- i. New registers at exhaust fans and supply/return registers
- j. New laminate casework with solid surface counter tops and integral sinks.
- k. Salvaged and relocated fire alarm devices.

### 2. PRE-BID CONFERENCE

Pre-Bid Conference will be held on **Tuesday, February 13, 2024 at 2:00 p.m. at building site, 1300 Norton St., Salina, KS.** Failure to attend may be grounds for rejection of bid.

### 3. COMPLETION TIME

All work is to be completed between June 1, 2024 and August 1, 2024. See Section 1019 Special Provisions for Anticipated Construction Schedule. All Aspects of this project shall be phased to minimize disturbance of the daily schedule. Prior to construction, Materials shall be on site or assured delivery dates to minimize construction delays.

### 4. The GENERAL CONSTRUCTION CONTRACT will include General Construction, Mechanical, and Electrical Work combined into one Contract.

### 5. The Owner reserves the right to waive any defects and informalities in Bids, to reject any or all Bids, to take any or all Bids under advisement, or to accept any Bid as may be deemed in its interest of meeting the standards of lowest responsible Bid.

### 6. The Drawings, Specifications, and Contract Documents may be obtained by bona fide Prime Bidders (Mechanical and Electrical, and Subcontractors) from Jones Gillam Renz Architect, 730 North 9th Street, Salina, Kansas 67401, 785-827-0386 upon deposit of \$150.00 for one (1) set of General Construction, Mechanical and Electrical Drawings and Specifications.

Electronic Drawings and specifications will be available for review on the website at [www.jgrarchitects.com](http://www.jgrarchitects.com). **Mechanical, Plumbing and Electrical Subcontractors who are bidding from documents via website or plan room must contact the office of Jones Gillam Renz Architects, 785.827.0386 to register as an official Plan Holder.**

Those who submit prime bids may obtain refund by returning sets in good condition no more than one (1) week after bids have been opened. No refund of deposit will be made to Contractors not submitting a bid, unless all documents are returned in good condition five (5) days prior to time of receiving bids.

CONTRACT DOCUMENTS will be on file and may be examined at the following locations:

Jones Gillam Renz Architects, 730 North 9th Street, Salina, KS 67401, ph. 785-827-0386, [www.jgrarchitects.com](http://www.jgrarchitects.com)

Associated General Contractors of Kansas, ph. 316-928-8635, [www.agcks.org](http://www.agcks.org)

KCNR, LLC., ph. 316-263-0265, <https://kcnr.net>

Dodge Construction Network, ph. 877-784-9556, [www.construction.com](http://www.construction.com)

Construct Connect, ph. 877-969-2909, [www.constructconnect.com](http://www.constructconnect.com)

Salina Blueprint, 209 S. Santa Fe Ave., Salina, KS 67401, ph. 785-827-6182, [www.salinablue.com](http://www.salinablue.com)

Salina Area Chamber of Commerce Plan Room, 120 West Ash, Salina, KS 67401, ph. 785-827-9301,  
[www.salinakansas.org](http://www.salinakansas.org)

**7. BID SECURITY in the amount of 5% of the bid must accompany each bid in accordance with INFORMATION FOR BIDDERS.**

BY ORDER OF:

Paul Mensching, Director of Operations  
USD 305 Salina School District  
Salina, Kansas

## INFORMATION FOR BIDDERS

### 1. EXAMINATION

Before submitting their bid, each Bidder shall carefully examine all documents pertaining to the work, visit the site of the work, and inform themselves as to all existing conditions under which the work will be performed. Submission of a bid will be considered presumptive evidence that the Bidder is fully aware of the conditions of the work, requirements of the Contract Documents, pertinent State and Local codes, conditions of labor and material markets, and has made allowances in their bid for all work and all contingencies. Contractors will not be given extra payments for conditions which can be determined by examining the site and documents.

### 2. QUESTIONS AND INTERPRETATION OF DOCUMENTS

Should a Bidder be in doubt as to the meaning of any part of the Drawings, Specifications or other proposed Contract Documents and/or find discrepancies in or omissions from the Drawings, Specifications and Contract Documents, he shall contact the Architect immediately per Article 3, Subparagraph 3.2.1 of the AIA General Conditions. Any interpretation of the proposed documents will be made only by Addendum duly issued and copy of such Addendum will be emailed to each person receiving a set of such documents. The Architect and Owner will not be responsible for any other explanation or interpretation of the proposed documents.

### 3. GENERAL CONSTRUCTION BID

- a. The General Construction bid shall incorporate all of the departments of Work (General Construction, Electrical, and Mechanical Work) into one (1) bid.  
*It is preferred that General Contractors work with Prime subcontractors with whom they have previous working relationships, including at least three previous projects of similar scope. Contractor/Subcontractor experience and relationship may be considered by the owner in the evaluation of bids and acceptance of bids.*
- b. The General Contractor shall assume all responsibility for supervision and coordination of the Work.
- c. The General Contractor shall furnish Performance and Payment Bonds in the full amount of the Work (Total of General Construction, Electrical, and Mechanical Work).
- d. The General Contractor shall carry and pay the premium covering the General Construction Work, for Contractors and Subcontractors Insurance as specified in Supplementary Conditions of the Contract.

### 4. BID PROCEDURE

- a. Bids will be received at the time and place stated in the INVITATION TO BID. Bids received after the time stated will be returned unopened.
- b. No oral or telephonic bids will be considered, but modifications by email of bids already submitted will be considered if received prior to time set for bid opening.
- c. Any addenda issued during the time of preparation of bids are to be acknowledged on the Bid Form and in closing a Contract, they will become a part thereof.
- d. Each Bidder is required to bid all alternates included in the Bid Form, except that should they desire not to bid an Alternate, they may insert the words "No Bid" in the space provided for such Alternates. In such case, if it is determined to use such Alternate, the fact that the cost of the material, type, or method bid may be lower than that chosen shall not constitute the basis of a claim by the Bidder that the Contract be awarded to him. If an Alternate Price called for involves no change in price, Bidder shall so indicate by writing the words, "No Change" in the space provided. Refer to Section 01019 - SPECIAL PROVISIONS. Each Bidder is required to fill in all unit cost items shown on the Bid Form. Failure to comply may be cause for rejection.
- e. Bids shall be submitted on the forms provided. All blank spaces on the forms shall be fully completed in words as well as figures. Bid Forms must be signed in longhand, with name typed below signature. Where Bidder is a corporation, Bid Forms must be signed with legal name of corporation, followed by the name of the State of Incorporation, the legal signature of an officer authorized to bind the corporation to a contract, Attest and Seal Impression. A copy of the Bid Form is bound herein for the convenience of the Bidders and is not to be detached or filled out. Separate Bid Forms will be furnished to all Bidders.
- f. Submittals of Bids shall be as follows:

- 1) Bids, together with Bid Security, shall be sealed in an opaque envelope, labeled “USD 305 HEUSNER ELEMENTARY, RESTROOM REMODEL, SEALED BID, DO NOT OPEN” addressed to: USD 305 SALINA SCHOOL DISTRICT. **Bid shall be delivered to the office of JGR Architects, 730 N 9<sup>th</sup> St., Salina, KS before Thursday February 22 at 2:00 p.m.**, at which time bids will be opened and read aloud.

5. CONTRACT GUARANTEE

Successful Bidder must deliver to the Owner the following Bonds in an amount no less than 100% of the accepted bid, as security for the faithful performance of the Contract.

- a. Performance and Payment Bond as per General Conditions.
- b. Statutory Bond, as required in Section 01019 - SPECIAL PROVISIONS.

6. WITHDRAWAL OF BIDS

A bid may be withdrawn on written or faxed request and by request of Contractor personally, received or made prior to time fixed for bid opening. No bid may be withdrawn after opening of bids.

7. INTERPRETATION OF QUOTED PRICES

In case of a difference in written words and figures in a bid, the amount stated in written words shall govern.

8. TIME OF CONSTRUCTION AND LIQUIDATED DAMAGES

Refer to Section 01019 - SPECIAL PROVISIONS.

9. DISQUALIFICATION

The Owner reserves the right to disqualify bids, before or after opening upon evidence of collusion with intent to defraud or illegal practices upon part of the Bidder. Bids will be opened as stated in the Invitation to Bid.

10. SALES TAX EXEMPTION

Refer to Section 01019 - SPECIAL PROVISIONS.

\*\*\*\*\*

# USD 305 Heusner Elementary, Restroom Remodel – Salina, Kansas

## BID FORM

Bid of \_\_\_\_\_  
(Firm Name)

Date \_\_\_\_\_

BID FORM FOR:  
USD 305 Heusner Elementary  
Restroom Remodel  
JGR #23-3322

TO: **Paul Mensching, Director of Operations**  
**USD 305 Salina School District**  
1511 Gypsum Ave.  
Salina, KS 67401

In compliance with your INVITATION TO BID, the undersigned proposes to furnish all labor and materials and perform all work for the General Construction, including Mechanical and Electrical Work, incidental for the construction and equipping of Heusner Elementary Restroom Remodel, Salina, Kansas, in strict accordance with the Specifications and the Drawings dated January 31, 2024 mentioned therein for the consideration of the following:

**BASE BID** \_\_\_\_\_ **Dollars**

\$ \_\_\_\_\_

**The Base Bid includes all allowances as outlined in Section 01019 – Special Provisions.**

Construction Schedule to complete this project in accordance with Drawings and Specifications, to be coordinated with General Contractor and subject to Liquidated Damages,

Section 01019 - SPECIAL PROVISIONS -- Construction to occur between May 24, 2024 thru August 2, 2024

The Undersigned acknowledges receipt of the following addenda:

Addendum #1 \_\_\_\_\_ Addendum #2 \_\_\_\_\_ Addendum #3 \_\_\_\_\_ Addendum #4 \_\_\_\_\_ Addendum #5 \_\_\_\_\_

ALTERNATE PRICES: For the Alternates as described in the Specifications and/or Drawings, the undersigned agrees to ADD or DEDUCT the following amounts to or from the BASE BID as hereinafter itemized:

<u>ALTERNATE NO.</u>	<u>ADD/DEDUCT</u>
----------------------	-------------------

<u>Alternate No. 1</u>	
------------------------	--

Replace existing underground sewer pipe through exterior wall for connection to existing sewer pipe at exterior of building.

\$ \_\_\_\_\_

<u>Alternate No. 2</u>	
------------------------	--

(As Described by Addendum)

\$ \_\_\_\_\_

<u>Alternate No. 3</u>	
------------------------	--

(As Described by Addendum)

\$ \_\_\_\_\_

## Unit Prices

Unit Price No. 1 (As Described by Addendum)

\$ \_\_\_\_\_ per unit

I (or WE) FURTHER AGREE AS FOLLOWS:

1. To furnish labor and materials for additional work (except Mechanical and Electrical) ordered by the Owner and for which no pre-agreed upon amount has been determined for the cost of the labor and materials involved plus 10% for overhead and profit.
2. To furnish supervision and coordination for 10% of the cost of additional Mechanical and Electrical work ordered by the Owner.
3. To accept the provisions of Section 01019 - SPECIAL PROVISIONS regarding the date of completion of the Project and Liquidated Damages.
4. If written notice of the acceptance of the Bid is mailed, telegraphed or delivered to the Undersigned within 30 days after the date of the opening of the Bids, or anytime thereafter before this Bid is withdrawn, the Undersigned will, within ten (10) days after the date of such mailing, telegraphing or delivery of such notice, execute and deliver a contract in accordance with AIA Document A101, Standard Form of Agreement Between Owner and Contractor, and give Performance Bond in accordance with the Specifications and bid as accepted.
5. That upon failure or refusal to execute and deliver the contract and bonds required within ten (10) days after receipt of notice of acceptance of the Bid, that security deposited with Bid shall be forfeited to the Owner as liquidated damages for such failure or refusal.

### DECLARATION:

1. The Undersigned hereby declares that he has carefully examined the Invitation and Information for Bidders, the Drawings and Specifications, has visited the actual location of the Work and has consulted his sources of supply, and has satisfied himself as to all quantities and conditions, and understands that in signing this Bid, he waives all rights to plead any misunderstanding regarding the same.
2. The Undersigned understands that his competence and responsibility and that of his proposed subcontractors, time of completion, as well as any other factors of interest to the Owner will be considered in making the award. The Owner reserves the right to reject any or all bids, to accept or reject alternate bids and unit prices and to waive technicalities concerning the bids received, as it may be in his interest to do so.

\_\_\_\_\_  
(Legal Name of Bidder)

(SEAL, if bid is by a corporation)

\_\_\_\_\_  
(Address of Bidder)

BY \_\_\_\_\_ in longhand

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





# AIA® Document A201™ – 2017

## General Conditions of the Contract for Construction

### for the following PROJECT:

*(Name and location or address)*

USD 305 Heusner Elementary  
Restroom Remodel,  
Salina, KS  
JGR 23-3322

### THE OWNER:

*(Name, legal status and address)*

USD 305 Salina School District  
1511 Gypsum Ave.  
Salina, KS 67401  
785-309-4712

### THE ARCHITECT:

*(Name, legal status and address)*

Jones Gillam Renz Architects  
Charles A. Renz, Principal  
730 N Ninth St., Salina, KS 67401  
785-827-0386

### TABLE OF ARTICLES

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

### 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.

## INDEX

(Topics and numbers in bold are Section headings.)

### Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, **12.3**

### Access to Work

**3.16**, 6.2.1, **12.1**

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,  
10.2.8, 13.3.2, 14.1, 15.1.2, 15.2

Addenda

1.1.1

Additional Costs, Claims for

3.7.4, 3.7.5, 10.3.2, 15.1.5

### Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, **13.4**

### Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.6**

### Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

### Allowances

**3.8**

### Applications for Payment

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

Approvals

2.1.1, 2.3.1, 2.5, 3.1.3, 3.10.2, 3.12.8, 3.12.9,  
3.12.10.1, 4.2.7, 9.3.2, 13.4.1

### Arbitration

8.3.1, 15.3.2, **15.4**

## ARCHITECT

**4**

Architect, Definition of

**4.1.1**

Architect, Extent of Authority

2.5, 3.12.7, 4.1.2, 4.2, 5.2, 6.3, 7.1.2, 7.3.4, 7.4, 9.2,  
9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,  
13.4.1, 13.4.2, 14.2.2, 14.2.4, 15.1.4, 15.2.1

Architect, Limitations of Authority and Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2, 4.2.3,  
4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4, 9.4.2,  
9.5.4, 9.6.4, 15.1.4, 15.2

Architect's Additional Services and Expenses

2.5, 12.2.1, 13.4.2, 13.4.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.5, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,  
7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,  
13.4.2, 15.2

Architect's Inspections

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

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.4.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2,  
3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16,  
3.18, 4.1.2, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,  
9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.3.2, 13.4, 15.2

Architect's Relationship with Subcontractors

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

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

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

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.6.8, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

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

**5.2**

### Basic Definitions

**1.1**

Bidding Requirements

1.1.1

Binding Dispute Resolution

8.3.1, 9.7, 11.5, 13.1, 15.1.2, 15.1.3, 15.2.1, 15.2.5,  
15.2.6.1, 15.3.1, 15.3.2, 15.3.3, 15.4.1

Bonds, Lien

7.3.4.4, 9.6.8, 9.10.2, 9.10.3

### Bonds, Performance, and Payment

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**, 11.1.3, **11.5**

### Building Information Models Use and Reliance

**1.8**

Building Permit

3.7.1

### Capitalization

**1.3**

Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

## **Certificates for Payment**

4.2.1, 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.4

Certificates of Inspection, Testing or Approval  
13.4.4

Certificates of Insurance  
9.10.2

## **Change Orders**

1.1.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8, 5.2.3, 7.1.2, 7.1.3, **7.2**, 7.3.2, 7.3.7, 7.3.9, 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.2, 11.5, 12.1.2

**Change Orders**, Definition of

**7.2.1**

## **CHANGES IN THE WORK**

2.2.2, 3.11, 4.2.8, 7, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1, 11.5

**Claims**, Definition of

**15.1.1**

**Claims**, Notice of  
1.6.2, 15.1.3

## **CLAIMS AND DISPUTES**

3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, **15**, 15.4  
**Claims and Timely Assertion of Claims**  
15.4.1

**Claims for Additional Cost**

3.2.4, 3.3.1, 3.7.4, 7.3.9, 9.5.2, 10.2.5, 10.3.2, **15.1.5**

**Claims for Additional Time**

3.2.4, 3.3.1, 3.7.4, 6.1.1, 8.3.2, 9.5.2, 10.3.2, **15.1.6**

**Concealed or Unknown Conditions, Claims for**  
**3.7.4**

**Claims for Damages**

3.2.4, 3.18, 8.3.3, 9.5.1, 9.6.7, 10.2.5, 10.3.3, 11.3, 11.3.2, 14.2.4, 15.1.7

**Claims Subject to Arbitration**  
15.4.1

**Cleaning Up**

**3.15**, 6.3

**Commencement of the Work**, Conditions Relating to  
2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3, 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.2, **15.1.5**

**Commencement of the Work**, Definition of  
**8.1.2**

**Communications**

3.9.1, **4.2.4**

**Completion**, Conditions Relating to

3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1, 9.10, 12.2, 14.1.2, 15.1.2

## **COMPLETION, PAYMENTS AND 9**

**Completion**, Substantial

3.10.1, 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 15.1.2

**Compliance with Laws**

2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3

**Concealed or Unknown Conditions**

3.7.4, 4.2.8, 8.3.1, 10.3

**Conditions of the Contract**

1.1.1, 6.1.1, 6.1.4

**Consent**, Written

3.4.2, 3.14.2, 4.1.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 13.2, 15.4.4.2

**Consolidation or Joinder**

**15.4.4**

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

1.1.4, **6**

**Construction Change Directive**, Definition of  
**7.3.1**

**Construction Change Directives**

1.1.1, 3.4.2, 3.11, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, **7.3**, 9.3.1.1

**Construction Schedules**, Contractor's

3.10, 3.11, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

**Contingent Assignment of Subcontracts**

**5.4**, 14.2.2.2

**Continuing Contract Performance**

**15.1.4**

**Contract**, Definition of

**1.1.2**

## **CONTRACT, TERMINATION OR SUSPENSION OF THE**

5.4.1.1, 5.4.2, 11.5, **14**

**Contract Administration**

3.1.3, 4, 9.4, 9.5

**Contract Award and Execution**, Conditions Relating to

3.7.1, 3.10, 5.2, 6.1

**Contract Documents**, Copies Furnished and Use of  
1.5.2, 2.3.6, 5.3

**Contract Documents**, Definition of

**1.1.1**

**Contract Sum**

2.2.2, 2.2.4, 3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.3, 7.4, **9.1**, 9.2, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.5, 12.1.2, 12.3, 14.2.4, 14.3.2, 15.1.4.2, **15.1.5**, **15.2.5**

**Contract Sum**, Definition of

**9.1**

**Contract Time**

1.1.4, 2.2.1, 2.2.2, 3.7.4, 3.7.5, 3.10.2, 5.2.3, 6.1.5, 7.2.1.3, 7.3.1, 7.3.5, 7.3.6, 7, 7, 7.3.10, 7.4, 8.1.1, 8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 12.1.2, 14.3.2, 15.1.4.2, 15.1.6.1, 15.2.5

**Contract Time**, Definition of

**8.1.1**

## **CONTRACTOR 3**

**3**

**Contractor**, Definition of

**3.1**, **6.1.2**

**Contractor's Construction and Submittal Schedules**

**3.10**, 3.12.1, 3.12.2, 4.2.3, 6.1.3, 15.1.6.2

Init.

/

Contractor's Employees  
2.2.4, 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.3, 14.1, 14.2.1.1

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

Damage to Construction of Owner or Separate Contractors  
3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 12.2.4  
Damage to the Work  
3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 12.2.4  
Damages, Claims for  
3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.3.2, 11.3, 14.2.4, 15.1.7  
Damages for Delay  
6.2.3, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 14.3.2  
**Date of Commencement of the Work, Definition of**  
**8.1.2**  
**Date of Substantial Completion, Definition of**  
**8.1.3**  
**Day, Definition of**  
**8.1.4**  
Decisions of the Architect  
3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.4.2, 14.2.2, 14.2.4, 15.1, 15.2  
**Decisions to Withhold Certification**  
9.4.1, **9.5**, 9.7, 14.1.1.3  
Defective or Nonconforming Work, Acceptance, Rejection and Correction of  
2.5, 3.5, 4.2.6, 6.2.3, 9.5.1, 9.5.3, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1  
Definitions  
1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1  
**Delays and Extensions of Time**  
**3.2**, **3.7.4**, 5.2.3, 7.2.1, 7.3.1, **7.4**, **8.3**, 9.5.1, **9.7**, 10.3.2, **10.4**, 14.3.2, **15.1.6**, 15.2.5  
**Digital Data Use and Transmission**  
**1.7**  
Disputes  
6.3, 7.3.9, 15.1, 15.2  
**Documents and Samples at the Site**  
**3.11**  
**Drawings, Definition of**  
**1.1.5**  
Drawings and Specifications, Use and Ownership of  
3.11  
Effective Date of Insurance  
8.2.2  
**Emergencies**  
**10.4**, 14.1.1.2, **15.1.5**  
Employees, Contractor's  
3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.3, 14.1, 14.2.1.1  
Equipment, Labor, or Materials  
1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2  
Execution and Progress of the Work  
1.1.3, 1.2.1, 1.2.2, 2.3.4, 2.3.6, 3.1, 3.3.1, 3.4.1, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.6, 8.2, 9.5.1, 9.9.1, 10.2, 10.3, 12.1, 12.2, 14.2, 14.3.1, 15.1.4

Extensions of Time  
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,  
10.4, 14.3, 15.1.6, **15.2.5**  
**Failure of Payment**  
9.5.1.3, **9.7**, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2  
Faulty Work  
(See Defective or Nonconforming Work)  
**Final Completion and Final Payment**  
4.2.1, 4.2.9, 9.8.2, **9.10**, 12.3, 14.2.4, 14.4.3  
Financial Arrangements, Owner's  
2.2.1, 13.2.2, 14.1.1.4  
**GENERAL PROVISIONS**  
**1**  
**Governing Law**  
**13.1**  
Guarantees (See Warranty)  
**Hazardous Materials and Substances**  
10.2.4, **10.3**  
Identification of Subcontractors and Suppliers  
5.2.1  
**Indemnification**  
3.17, **3.18**, 9.6.8, 9.10.2, 10.3.3, 11.3  
**Information and Services Required of the Owner**  
2.1.2, **2.2**, 2.3, 3.2.2, 3.12.10.1, 6.1.3, 6.1.4, 6.2.5,  
9.6.1, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2,  
14.1.1.4, 14.1.4, 15.1.4  
**Initial Decision**  
**15.2**  
**Initial Decision Maker, Definition of**  
1.1.8  
Initial Decision Maker, Decisions  
14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5  
Initial Decision Maker, Extent of Authority  
14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5  
**Injury or Damage to Person or Property**  
**10.2.8**, 10.4  
Inspections  
3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,  
9.9.2, 9.10.1, 12.2.1, 13.4  
Instructions to Bidders  
1.1.1  
Instructions to the Contractor  
3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.4.2  
**Instruments of Service, Definition of**  
**1.1.7**  
Insurance  
6.1.1, 7.3.4, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5, **11**  
Insurance, Notice of Cancellation or Expiration  
11.1.4, 11.2.3  
**Insurance, Contractor's Liability**  
**11.1**  
Insurance, Effective Date of  
8.2.2, 14.4.2  
**Insurance, Owner's Liability**  
**11.2**  
**Insurance, Property**  
**10.2.5**, 11.2, 11.4, 11.5

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

## MISCELLANEOUS PROVISIONS

### 13

#### Modifications, Definition of

##### 1.1.1

#### Modifications to the Contract

1.1.1, 1.1.2, 2.5, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7, 10.3.2

#### Mutual Responsibility

### 6.2

#### Nonconforming Work, Acceptance of

9.6.6, 9.9.3, **12.3**

Nonconforming Work, Rejection and Correction of  
2.4, 2.5, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4, 12.2

#### Notice

**1.6**, 1.6.1, 1.6.2, 2.1.2, 2.2.2., 2.2.3, 2.2.4, 2.5, 3.2.4, 3.3.1, 3.7.4, 3.7.5, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 7.4, 8.2.2, 9.6.8, 9.7, 9.10.1, 10.2.8, 10.3.2, 11.5, 12.2.2.1, 13.4.1, 13.4.2, 14.1, 14.2.2, 14.4.2, 15.1.3, 15.1.5, 15.1.6, 15.4.1

#### Notice of Cancellation or Expiration of Insurance

11.1.4, 11.2.3

#### Notice of Claims

1.6.2, 2.1.2, 3.7.4, 9.6.8, 10.2.8, **15.1.3**, 15.1.5, 15.1.6, 15.2.8, 15.3.2, 15.4.1

#### Notice of Testing and Inspections

13.4.1, 13.4.2

#### Observations, Contractor's

3.2, 3.7.4

#### Occupancy

2.3.1, 9.6.6, 9.8

#### Orders, Written

1.1.1, 2.4, 3.9.2, 7, 8.2.2, 11.5, 12.1, 12.2.2.1, 13.4.2, 14.3.1

## OWNER

### 2

#### Owner, Definition of

##### 2.1.1

#### Owner, Evidence of Financial Arrangements

**2.2**, 13.2.2, 14.1.1.4

#### Owner, Information and Services Required of the

2.1.2, **2.2**, 2.3, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4

#### Owner's Authority

1.5, 2.1.1, 2.3.32.4, 2.5, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.4, 11.5, 12.2.2, 12.3, 13.2.2, 14.3, 14.4, 15.2.7

#### Owner's Insurance

### 11.2

#### Owner's Relationship with Subcontractors

1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2

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

**2.5**, 14.2.2

#### Owner's Right to Clean Up

### 6.3

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

### 6.1

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

### 2.4

#### Owner's Right to Suspend the Work

14.3

#### Owner's Right to Terminate the Contract

14.2, 14.4

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

1.1.1, 1.1.6, 1.1.7, **1.5**, 2.3.6, 3.2.2, 3.11, 3.17, 4.2.12, 5.3

#### Partial Occupancy or Use

9.6.6, **9.9**

#### Patching, Cutting and

**3.14**, 6.2.5

#### Patents

3.17

#### Payment, Applications for

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1, 14.2.3, 14.2.4, 14.4.3

#### Payment, Certificates for

4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4

#### Payment, Failure of

9.5.1.3, **9.7**, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

#### Payment, Final

4.2.1, 4.2.9, **9.10**, 12.3, 14.2.4, 14.4.3

#### Payment Bond, Performance Bond and

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**

#### Payments, Progress

9.3, **9.6**, 9.8.5, 9.10.3, 14.2.3, 15.1.4

## PAYMENTS AND COMPLETION

### 9

#### Payments to Subcontractors

5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2

#### PCB

10.3.1

#### Performance Bond and Payment Bond

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**

#### Permits, Fees, Notices and Compliance with Laws

2.3.1, **3.7**, 3.13, 7.3.4.4, 10.2.2

## PERSONS AND PROPERTY, PROTECTION OF

### 10

#### Polychlorinated Biphenyl

10.3.1

#### Product Data, Definition of

### 3.12.2

#### Product Data and Samples, Shop Drawings

3.11, **3.12**, 4.2.7

#### Progress and Completion

4.2.2, **8.2**, 9.8, 9.9.1, 14.1.4, 15.1.4

#### Progress Payments

9.3, **9.6**, 9.8.5, 9.10.3, 14.2.3, 15.1.4



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

Separate Contracts and Contractors  
 1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2  
**Separate Contractors, Definition of**  
**6.1.1**  
**Shop Drawings, Definition of**  
**3.12.1**  
**Shop Drawings, Product Data and Samples**  
 3.11, **3.12**, 4.2.7  
**Site, Use of**  
**3.13**, 6.1.1, 6.2.1  
 Site Inspections  
 3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.9.2, 9.4.2, 9.10.1, 13.4  
 Site Visits, Architect's  
 3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4  
 Special Inspections and Testing  
 4.2.6, 12.2.1, 13.4  
**Specifications, Definition of**  
**1.1.6**  
**Specifications**  
 1.1.1, **1.1.6**, 1.2.2, 1.5, 3.12.10, 3.17, 4.2.14  
 Statute of Limitations  
 15.1.2, 15.4.1.1  
 Stopping the Work  
 2.2.2, 2.4, 9.7, 10.3, 14.1  
 Stored Materials  
 6.2.1, 9.3.2, 10.2.1.2, 10.2.4  
**Subcontractor, Definition of**  
**5.1.1**  
**SUBCONTRACTORS**  
**5**  
 Subcontractors, Work by  
 1.2.2, 3.3.2, 3.12.1, 3.18, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2,  
 9.6.7  
**Subcontractual Relations**  
**5.3**, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1  
 Submittals  
 3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.4, 9.2, 9.3, 9.8,  
 9.9.1, 9.10.2, 9.10.3  
 Submittal Schedule  
 3.10.2, 3.12.5, 4.2.7  
**Subrogation, Waivers of**  
 6.1.1, **11.3**  
**Substances, Hazardous**  
**10.3**  
**Substantial Completion**  
 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, **9.8**, 9.9.1, 9.10.3, 12.2,  
 15.1.2  
**Substantial Completion, Definition of**  
**9.8.1**  
 Substitution of Subcontractors  
 5.2.3, 5.2.4  
 Substitution of Architect  
 2.3.3  
 Substitutions of Materials  
 3.4.2, 3.5, 7.3.8  
**Sub-subcontractor, Definition of**  
**5.1.2**

Subsurface Conditions

3.7.4

**Successors and Assigns**

**13.2**

**Superintendent**

3.9, 10.2.6

**Supervision and Construction Procedures**

1.2.2, **3.3**, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.4

**Suppliers**

1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.5.4, 9.6, 9.10.5, 14.2.1

**Surety**

5.4.1.2, 9.6.8, 9.8.5, 9.10.2, 9.10.3, 11.1.2, 14.2.2, 15.2.7

**Surety, Consent of**

9.8.5, 9.10.2, 9.10.3

**Surveys**

1.1.7, 2.3.4

**Suspension by the Owner for Convenience**

**14.3**

**Suspension of the Work**

3.7.5, 5.4.2, 14.3

**Suspension or Termination of the Contract**

5.4.1.1, 14

**Taxes**

3.6, 3.8.2.1, 7.3.4.4

**Termination by the Contractor**

14.1, 15.1.7

**Termination by the Owner for Cause**

5.4.1.1, **14.2**, 15.1.7

**Termination by the Owner for Convenience**

**14.4**

**Termination of the Architect**

2.3.3

**Termination of the Contractor Employment**

14.2.2

## **TERMINATION OR SUSPENSION OF THE CONTRACT**

**14**

**Tests and Inspections**

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 12.2.1, **13.4**

**TIME**

**8**

**Time, Delays and Extensions of**

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5

**Time Limits**

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15.1.2, 15.1.3, 15.4

**Time Limits on Claims**

3.7.4, 10.2.8, 15.1.2, 15.1.3

**Title to Work**

9.3.2, 9.3.3

## **UNCOVERING AND CORRECTION OF WORK**

**Uncovering of Work**

**12.1**

**Unforeseen Conditions, Concealed or Unknown**

3.7.4, 8.3.1, 10.3

**Unit Prices**

7.3.3.2, 9.1.2

**Use of Documents**

1.1.1, 1.5, 2.3.6, 3.12.6, 5.3

**Use of Site**

**3.13**, 6.1.1, 6.2.1

**Values, Schedule of**

**9.2**, 9.3.1

**Waiver of Claims by the Architect**

13.3.2

**Waiver of Claims by the Contractor**

9.10.5, 13.3.2, **15.1.7**

**Waiver of Claims by the Owner**

9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.3.2, 14.2.4, **15.1.7**

**Waiver of Consequential Damages**

14.2.4, 15.1.7

**Waiver of Liens**

9.3, 9.10.2, 9.10.4

**Waivers of Subrogation**

6.1.1, **11.3**

**Warranty**

**3.5**, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.2, 9.10.4, 12.2.2, 15.1.2

**Weather Delays**

8.3, 15.1.6.2

**Work, Definition of**

**1.1.3**

**Written Consent**

1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.10.3, 13.2, 13.3.2, 15.4.4.2

**Written Interpretations**

4.2.11, 4.2.12

**Written Orders**

1.1.1, 2.4, 3.9, 7, 8.2.2, 12.1, 12.2, 13.4.2, 14.3.1



## **ARTICLE 1 GENERAL PROVISIONS**

### **§ 1.1 Basic Definitions**

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

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

#### **§ 1.1.2 The Contract**

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and 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** Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

### **§ 1.3 Capitalization**

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

### **§ 1.4 Interpretation**

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

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

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

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

### **§ 3.5 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.

### **§ 3.6 Taxes**

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

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

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

**§ 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 shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

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

## **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.

**§ 5.2.2** 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** 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.

## **§ 8.3 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.

**§ 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.

**§ 9.3.2** Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

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

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

**§ 9.4.1** 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.

## **§ 9.6 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.

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

**§ 9.10.3** If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

**§ 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**

**§ 11.1.1** The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

**§ 11.1.2** The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

**§ 11.1.3** Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

**§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance.** Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or

expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

## **§ 11.2 Owner's Insurance**

**§ 11.2.1** The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

**§ 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** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

**§ 11.3.2** If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

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

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

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

**§ 11.5.1** A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

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

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

#### **§ 12.1 Uncovering of Work**

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

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

#### **§ 12.2 Correction of Work**

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

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

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

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



that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

**§ 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 Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

## **ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT**

### **§ 14.1 Termination by the Contractor**

**§ 14.1.1** 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.

### **§ 15.3 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.

### **§ 15.4 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.



## SUPPLEMENTARY CONDITIONS OF THE CONTRACT

1. DEFINITIONS - Supplement Paragraph 1.1 as follows:
  - a. When words such as approved, proper, satisfactory, equal, and as directed are used, they imply such reference to the Architect's specific approval and directions.
  - b. Provide means to furnish and install.
  - c. The provisions of the Agreement take precedence over all other Contract Documents.
2. WARRANTY - Supplement Paragraph 3.5.1 as follows:
  - a. Contractor warrants to Owner and Architect that on receipt of notice from either of them, within the period of one (1) year following date of Substantial Completion, that defects in materials and/or workmanship have appeared in the Work, Contractor will promptly correct such defects to the state of condition originally required by the Contract Documents at Contractor's expense.
3. SHOP DRAWINGS - Supplement Paragraph 3.12 as follows:
  - a. The Contractor shall submit **one (1) electronic copy** of all Shop or Setting Drawings and Schedules required for the work of the various trades, after same have been checked and compared with the Contract Document Requirements, and after checking with field conditions at the job and so certified on the Drawings by the Contractor. Above Drawings will not be checked by Architect unless same bear certification.
  - b. Architect's approval is subject to notations on Drawings, Compliance with Drawings and Specifications, and conditions and measurements at project. Measurements and quantity not checked or approved.
4. SAMPLES - Supplement Subparagraph 3.12.3 as follows:
  - a. All samples as called for in the various Sections of this Specification and any other samples, as directed, shall be furnished by the Contractor for approval.
  - b. All samples of materials that require approval as to color, texture, finish and type shall be furnished at the same time, so that an intelligent selection of colors and textures may be made by the Architect.
5. COLOR SELECTIONS
  - a. The Contractor shall provide for and coordinate into the project construction schedule, a 6-week time frame for the Architect/Designer to make final color selections from Contractor's submittals, obtain approval from the Owner and to submit a color schedule, indicating what colors go where, to the Contractor. Time frame begins when Architect has received 100% of submittals listed below.
  - b. Submittals, i.e., actual samples, manufacturers' literature, full color line options, etc., shall include as a minimum, but not limited to:
    - Carpet Types
    - Vinyl Composition Tile Flooring
    - Vinyl Base
    - Ceramic Wall Tile
    - Ceiling Types
    - Paint
    - Corner Guards
    - Wood Stain for Doors and Woodwork
    - Epoxy Resin Floors
6. CLEAN UP - Supplement Paragraph 3.15 as follows:
  - a. Each Contractor shall, at all times, remove any and all of his rubbish from the buildings and grounds and keep the building site clean.
  - b. In addition to the general broom cleaning, the General Contractor shall do the following special cleaning for all trades at the completion of the work:
    - 1) Glass. Remove putty, stains and paint from all glass and wash and polish same. Care shall be taken not to scratch the glass.
    - 2) Painted, Decorated, and Stained Work. Remove all marks, stains, fingerprints and other soil or dirt from all painted, decorated, and stained work.
    - 3) Temporary Protection. Remove all temporary protections; clean and polish all floors at completion.
    - 4) Woodwork. Clean and polish all woodwork upon completion.

- 5) Hardware. Clean and polish all hardware for all trades. This shall include removal of all stains, dust, dirt, paint, etc., upon completion.
    - 6) Tile Work. Remove all spots, soil, and paint from all tile work, wash same upon completion.
    - 7) Fixtures and Equipment. Clean all fixtures and equipment, removing all stains, paint, dirt and dust.
  - c. All combustible rubbish, and all debris and other rubbish shall be removed entirely from the premises.
7. **MUTUAL RESPONSIBILITY OF CONTRACTORS** - Supplement Paragraph 6.2 as follows:
- a. General Contractor shall assume general coordination and direction of the project. General Contractor shall cooperate with Mechanical and Electrical Contractors and other subcontractors and/or suppliers on the Work and install their work in sequence to facilitate and not delay the completion of the project. The Architect is not the coordinator or expeditor of the work of the contractors and/or subcontractors referred to hereinbefore.
8. **CHANGES IN THE WORK**  
Refer to Paragraph 7.2 and insert the following:
- a. Whenever a Change Order involves net cost decrease, the CREDIT to the Owner shall be such net cost decrease. Whenever a Change Order involves a summary net increase, the Contract shall be increased by the amount of such net cost increase plus 10% of such net cost for overhead and profit. The General Contractor will furnish supervision and coordination for 10% of the cost of additional Mechanical and Electrical work ordered by the Owner.
  - b. The Contractor shall furnish the Owner an itemized accounting with supporting data used in computing the value of any change that might be ordered.
  - c. Change Orders must state a number of added days or days to be deleted from completion time. If no change in days is required by the change order, write NONE. Failure to comply with above voids any later request for extra time.
9. **APPLICATION FOR PROGRESS PAYMENTS AND CERTIFICATION FOR PAYMENT**
- a. Amend Subparagraph 9.3.1 and insert the following: On or before the 25th day of each month, the Contractor shall submit to the Architect an itemized Application for Payment supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require.
  - b. Amend Subparagraph 9.4.1 and insert: If the Contractor has made application for payment as above, the Architect will, with reasonable promptness and within seven (7) days after receipt of the application, issue an application for payment to the Owner, with a copy to the Contractor in the amount of 90% of the value of the Contract the Architect determines has been completed to the date of application, thus a 10% retainage, less any amount paid to the Contractor, or state in writing his reason for withholding an application as provided in Subparagraph 9.5.1.
  - c. Date of payment of the Application for Payment by the Owner is hereby defined as the earliest possible date that the Owner can prepare vouchers after receipt of Application for Payment from the Architect and approval of same by any governing body of the Owner and issuance of vouchers to cover Application for Payment.
10. **CONTRACTOR'S LIABILITY INSURANCE**
- a. Workers' Compensation and Employers Liability Insurance - Refer to Subparagraph 11.1.1.
  - b. Bodily Injury and Property Damage - Refer to Subparagraph 11.1.2. Limits shall be as follows:
    - (1) Limits of liability coverage shall be \$2,000,000.00 Combined Single Limit for Bodily Injury and Property Damage.
  - c. Owner's Protective Liability Insurance - Refer to Paragraph 11.2 - Owner's Option.
11. **PERFORMANCE AND PAYMENT BONDS** - Supplement Subparagraph 11.4.1 as follows:
- a. Bond shall be equivalent to AIA Form A311, two part Performance Bond and Labor and Materials Bond with amount shown on each part equal to 100% of the total amount payable by the terms of the Contract. Surety shall be company licensed to do business at the place of building and shall be acceptable to the Owner.

12. PROPERTY INSURANCE MARINE ALL RISK SPECIAL BUILDERS RISK AND TRANSIT FORM  
Refer to Paragraph 11.4 Property Insurance and insert the following:
- a. Until the Work is completed and accepted by the Owner, **the General Contractor shall effect and maintain total Property Insurance (Marine All Risk Special Builders Risk and Transit Form)** upon the Work at the site to 100% of the insurable value thereof (plus 8% of this insured value for Architect's Fee in connection with any loss covered by this insurance) including items of labor and materials connected therewith in or adjacent to the structure insured, materials in place or to be used as a part of the permanent construction, including surplus materials, shanties, protective fences, bridges or temporary structures, miscellaneous materials and supplies incidental to the Work, and such scaffoldings, stagings, towers, forms and equipment as are not owned or rented by the Contractor, the cost of which is included in the cost of the work. EXCLUSIONS: This insurance does not cover any tools owned by mechanics; any tools, equipment, scaffoldings, stagings, towers and forms owned or rented by the Contractor; the capital value of which is not included in the cost of the work, nor loss of equipment, materials, tools, etc., by theft. **Contractor shall not commence construction prior to receipt of policy copy from Owner.**
  - b. This insurance shall include the interest of the Owner, the Contractor, Subcontractor, and Sub-Subcontractor in the Work.

END OF SECTION





## LIST OF DRAWINGS

### **General**

---

Cover

### **Architectural**

---

D1 Demolition Plans & Photographs  
D2 Demolition Interior Elevations  
A1 Floor Plans and Details  
A2 Interior Elevations  
A3 Reflected Ceiling Plans and Details

### **Mechanical**

---

ME1.1 M/E Demolition Plans  
M1.1 Mechanical Plans

### **Electrical**

---

E1 Electrical Plans



# DRAFT 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)

« »  
« »  
« »  
« »

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

« »  
« »  
« »  
« »

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

« »  
« »  
« »

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

« »  
« »  
« »  
« »

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.

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.

**ELECTRONIC COPYING** of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

## TABLE OF ARTICLES

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

## EXHIBIT A INSURANCE AND BONDS

### ARTICLE 1 THE CONTRACT DOCUMENTS

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

### ARTICLE 2 THE WORK OF THIS CONTRACT

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

### ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

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

*(Check one of the following boxes.)*

☐ The date of this Agreement.

☐ A date set forth in a notice to proceed issued by the Owner.

☐ 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

§ 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: « »

§ 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 « » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the « » day of the « » 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 « » ( « » ) 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.)*

« »



**§ 5.1.7.1.1** 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.)

<< >> % << >>

## **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.)*

<< >>

§ 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, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

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

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

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

« »

§ 8.7 Other provisions:

« »

### ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds
- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction
- .4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:  
*(Insert the date of the E203-2013 incorporated into this Agreement.)*

« »

- .5 Drawings

Number	Title	Date

- .6 Specifications

Section	Title	Date	Pages

- .7 Addenda, if any:

Number	Date	Pages

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

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

[ « » ] AIA Document E204™-2017, Sustainable Projects Exhibit, dated as indicated below:  
(Insert the date of the E204-2017 incorporated into this Agreement.)

« »

[ « » ] The Sustainability Plan:

Title	Date	Pages

[ « » ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

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

« »

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

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

« »« »

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

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

« »« »

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

# DRAFT AIA® Document A101® – 2017

## Exhibit A

### Insurance and Bonds

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

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

« »  
« »

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

« »  
« »

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

« »  
« »

#### TABLE OF ARTICLES

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

#### ARTICLE A.1 GENERAL

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

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

##### § A.2.1 General

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

##### § A.2.2 Liability Insurance

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

#### ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

This document is intended to be used in conjunction with AIA Document A201®–2017, General Conditions of the Contract for Construction. Article 11 of A201®–2017 contains additional insurance provisions.

**ELECTRONIC COPYING** of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

§ A.2.3 Required Property Insurance

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

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

Causes of Loss	Sub-Limit

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

Coverage	Sub-Limit
Replacement Value	\$1,000,000.00 each occurrence

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

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

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

§ A.2.3.3 Insurance for Existing Structures

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

§ A.2.4 Optional Extended Property Insurance.

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

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

[ ☐ **N/A** ] **§ A.2.4.1 Loss of Use, Business Interruption, and Delay in Completion Insurance**, to reimburse the Owner for loss of use of the Owner's property, or the inability to conduct normal operations due to a covered cause of loss.

<< >>

[ ☐ **N/A** ] **§ A.2.4.2 Ordinance or Law Insurance**, for the reasonable and necessary costs to satisfy the minimum requirements of the enforcement of any law or ordinance regulating the demolition, construction, repair, replacement or use of the Project.

<< >>

[ ☐ **N/A** ] **§ A.2.4.3 Expediting Cost Insurance**, for the reasonable and necessary costs for the temporary repair of damage to insured property, and to expedite the permanent repair or replacement of the damaged property.

<< >>

[ ☐ **N/A** ] **§ A.2.4.4 Extra Expense Insurance**, to provide reimbursement of the reasonable and necessary excess costs incurred during the period of restoration or repair of the damaged property that are over and above the total costs that would normally have been incurred during the same period of time had no loss or damage occurred.

<< >>

[ ☐ **N/A** ] **§ A.2.4.5 Civil Authority Insurance**, for losses or costs arising from an order of a civil authority prohibiting access to the Project, provided such order is the direct result of physical damage covered under the required property insurance.

<< >>

[ ☐ **N/A** ] **§ A.2.4.6 Ingress/Egress Insurance**, for loss due to the necessary interruption of the insured's business due to physical prevention of ingress to, or egress from, the Project as a direct result of physical damage.

<< >>

[ ☐ **N/A** ] **§ A.2.4.7 Soft Costs Insurance**, to reimburse the Owner for costs due to the delay of completion of the Work, arising out of physical loss or damage covered by the required property insurance: including construction loan fees; leasing and marketing expenses; additional fees, including those of architects, engineers, consultants, attorneys and accountants, needed for the completion of the construction, repairs, or reconstruction; and carrying costs such as property taxes, building permits, additional interest on loans, realty taxes, and insurance premiums over and above normal expenses.

<< >>

### § A.2.5 Other Optional Insurance.

The Owner shall purchase and maintain the insurance selected below.

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

[ «N/A » ] § A.2.5.1 **Cyber Security Insurance** for loss to the Owner due to data security and privacy breach, including costs of investigating a potential or actual breach of confidential or private information. *(Indicate applicable limits of coverage or other conditions in the fill point below.)*

« »

[ «N/A » ] § A.2.5.2 **Other Insurance**  
*(List below any other insurance coverage to be provided by the Owner and any applicable limits.)*

Coverage

Limits

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

### § A.3.1 General

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

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

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

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

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

« »

### § A.3.2.2 Commercial General Liability

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

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



- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 3.18 of the General Conditions.

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

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

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

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

§ A.3.2.5 Workers' Compensation at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than ~~«Five Hundred Thousand dollars and Zero cents-»~~ (\$ ~~«500,000.00-»~~ ) each accident, ~~«Five Hundred Thousand dollars and Zero cents-»~~ (\$ ~~«500,000.00-»~~ ) each employee, and ~~«Five Hundred Thousand dollars and Zero cents »~~ (\$ ~~«500,000.00-»~~ ) policy limit.

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

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

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

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

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

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

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

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

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

« »

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

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

[ ☒ ] § A.3.3.2.1 Property insurance of the same type and scope satisfying the requirements identified in Section A.2.3, which, if selected in this section A.3.3.2.1, relieves the Owner of the responsibility to purchase and maintain such insurance except insurance required by Section A.2.3.1.3 and Section A.2.3.3. The Contractor shall comply with all obligations of the Owner under Section A.2.3 except to the extent provided below. The Contractor shall disclose to the Owner the amount of any deductible, and the Owner shall be responsible for losses within the deductible. Upon request, the Contractor shall provide the Owner with a copy of the property insurance policy or policies required. The Owner shall adjust and settle the loss with the insurer and be the trustee of the proceeds of the property insurance in accordance with Article 11 of the General Conditions unless otherwise set forth below:  
*(Where the Contractor's obligation to provide property insurance differs from the Owner's obligations as described under Section A.2.3, indicate such differences in the space below. Additionally, if a party other than the Owner will be responsible for adjusting and settling a loss with the insurer and acting as the trustee of the proceeds of property insurance in accordance with Article 11 of the General Conditions, indicate the responsible party below.)*

☒ General Contractor shall provide Builders Risk insurance. »

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

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

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

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

[ «N/A » ] § A.3.3.2.6 Other Insurance

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

Coverage	Limits
----------	--------

§ A.3.4 Performance Bond and Payment Bond

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

(Specify type and penal sum of bonds.)

Type	Penal Sum (\$0.00)
Payment Bond	100% of contract amount
Performance Bond	100% of contract amount

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

ARTICLE A.4 SPECIAL TERMS AND CONDITIONS

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

« »



## Verbiage as of 1/17/2024

### Other Bid Requirements

**NON-DISCRIMINATION – STATE** The contractor hereby agrees to require that sections (a) (1) through (a) (5) of K.S.A. 44-1030 (as follows) be included in all contracts to which the contractor's agency is a party; except those with contractors, vendors or suppliers whose cumulative dollar total in the fiscal year is \$5,000.00 or less, or who have fewer than four employees.

- (1) The contractor, vendors, or suppliers shall observe the provisions of the Kansas Act Against Discrimination and shall not discriminate against any person in the performance of work under the present contract because of race, religion, color, sex, disability, national origin or ancestry.
- (2) In all solicitations or advertisements for employees, the contractor, vendors, or suppliers shall include the phrase "Equal Opportunity Employer", or a similar phrase to be approved by the Kansas Commission on Human Rights;
- (3) If the contractor, vendors, or suppliers fails to comply with the manner in which reports to the Kansas Commission on Human Rights in accordance with the provisions of K.S.A. 44-1031, as amended, the contractor, vendor, or supplier shall be deemed to have breached the present contract and it may be canceled, terminated or suspended, in whole or in part by Unified School District 305;
- (4) If the contractor, vendors, or suppliers are found guilty of a violation of the Kansas Act Against Discrimination under a decision or order of the Kansas Commission on Human Rights which has become final, the contractor, vendor, or supplier shall be deemed to have breached the present contract and it may be canceled, terminated or suspended, in whole or in part by Unified School District 305; and
- (5) The contractor, vendors, or suppliers shall include the provisions of paragraphs (a) (1) through (a) (4) in every subcontract or purchase order so that such provisions will be binding upon such subcontractor or vendor.

**NON-DISCRIMINATION – USD 305** The Unified School District 305 does not discriminate on the basis of race, color, national origin, sex, handicap, disability, or age, in its programs and activities and provides equal access to the Boy Scouts and other designated youth groups. Persons having inquiries concerning compliance may contact the Executive Director of Human Resources, 1511 Gypsum Avenue, Salina, Kansas 67401, (785) 309-4726.



## SAMPLE COPY - STATUTORY BOND

Statutory Bond shall be furnished in quadruplicate, two (2) copies shall have Power of Attorney attached. Wording of Statutory furnished must be an exact copy of this sample and on 8½" x 11" paper.



STATUTORY BOND

KNOW ALL MEN BY THESE PRESENTS:

\_\_\_\_\_, as Principal, and

\_\_\_\_\_, a Corporation organized under the laws of  
the State of \_\_\_\_\_, as Surety are held and firmly bound unto the State of \_\_\_\_\_  
\_\_\_\_\_, in the penal sum of \_\_\_\_\_

\_\_\_\_\_ Dollars \$ \_\_\_\_\_ lawful money of the United  
States, for the payment of which sum well and truly made, said Principal and Surety bind  
themselves, their heirs, administrators, executors, successors and assignees, jointly and severally  
by these presents.

Signed, sealed and delivered on this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT WHEREAS said  
Principal has entered into a written contract with \_\_\_\_\_

\_\_\_\_\_, hereinafter called the "Owner" dated \_\_\_\_\_  
20\_\_\_\_\_, for the construction or marking of the following described improvements:

all in accordance with the detailed Drawings and Specifications on file in the office of the  
Owner.

NOW THEREFORE, if the said Principal or the Subcontractor, or Sub-Subcontractors, of said  
Principal shall pay all indebtedness incurred for supplies, materials or labor furnished, used or  
consumed in connection with, in or about the construction or making of the above described  
improvements, including gasoline, lubrications, oils, fuel oils, greases, coat and similar items  
used or consumed directly in furtherance of such improvements, this obligation shall be void,  
otherwise it shall remain in full force and effect.

The said Surety, for value received, hereby stipulates and agrees that no change, extension of  
time, alteration or additions to the terms of the Contract or to the work to be performed  
thereunder or the Specifications accompanying the same shall in any way affect any such change,  
extension of time, alteration or addition to the terms of the Contract or to the Specifications.

(SEAL)

\_\_\_\_\_  
Principal

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

(SEAL)

\_\_\_\_\_  
Surety

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

## SECTION 01010

### GENERAL WORK REQUIREMENTS

1. **GENERAL**  
Should conflict occur between these General Work Requirements and the General Conditions, the requirements of this Section take precedence.
2. **INTENT OF DOCUMENTS**  
The Contract Drawings are complementary and what is called for by anyone shall be as binding as if called by all. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work.
3. **MANUFACTURER'S DIRECTIONS**  
All manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturers, unless herein specified to the contrary.
4. **BUILDING PERMIT**  
As stated in Subparagraph 4.7.1, AIA DOCUMENT A201, General Conditions, the General Contractor shall secure and pay for the building permit.
5. **MATERIALS - EQUIPMENT - SUBSTITUTION**
  - A. In general, these Specifications identify the required materials and equipment by naming one or more manufacturers, brand, model, catalog number, and/or other identification; the first-named manufacturer's product used as a basis for design; the other named brands considered equivalent. Equivalent brand manufacturers named must furnish products consistent with the Specifications for the first-named product, as determined by the Architect. Base Bid shall include only those brands named and must be used on the project, except as hereinafter provided.
  - B. Materials or equipment specified exclusively, Base Bid shall be based on same and used on project, except as hereinafter provided.
  - C. Prior to receipt of bids, should Contractor wish to incorporate in Base Bid, brands or products other than those named in the Specifications, he shall submit written request for substitution to Architect not later than seven (7) days prior to date bids are due. Architect will consider request and items approved will be listed in an addendum issued to all bidders.
  - D. After execution of Contract, substitution of product brands for those named in the Specifications will be considered, only if request is received within thirty (30) days after Contract Date and request includes showing credit due Owner.
  - E. Materials specified equivalent and those proposed for substitution must be equal or better than first-named material in construction, efficiency, utility, aesthetic design, and physical size shall not be larger than space provided for it. Request for substitution by full description and technical data in two (2) copies, including manufacturer's name, model, catalog number, photographs or cuts, physical dimensions, operating characteristics, and any other information for comparison.
  - F. Owner reserves the right:
    - 1) To require any or all bidders, before execution of Contract, to state what materials they will use.
    - 2) To require "if bound with the Bid Form," the Contractor to fill out a BID SUPPLEMENT listing the BASE BID and "ADD" or "DEDUCT" for other materials he proposes to use.
6. **APPROVAL OF SUBCONTRACTORS - MATERIALS**
  - A. The Contractor, if requested, must submit for approval before signing Agreement, list of Subcontractors and material suppliers enumerating items of work to be performed, name of materials, equipment, etc., to be furnished and/or installed. Refer to Paragraph - MATERIALS - EQUIPMENT - SUBSTITUTION.
  - B. If the list is not requested prior to signing of Agreement, list, as described in previous paragraph, shall be furnished within ten (10) days of signing Agreement.

7. PROTECTION - Supplement, ARTICLE 10, AIA GENERAL CONDITIONS
- A. Refer to Paragraph - WEATHER CONDITIONS.
  - B. Each Contractor shall assume responsibility for his materials stored on the premises.
  - C. General Contractor shall take charge and assume general responsibility for proper protection of project during construction.
  - D. The General Contractor shall protect trees, shrubs, lawns, and all landscape from damage, providing guards and covering. Damaged work shall be repaired or replaced at his expense. Protect streets and sidewalks and make repairs at his expense.
    - 1) Water Protection. The General Contractor shall, at all times, protect the excavation, trenches, and/or the building from damage by rain water, spring water, ground water, backing up of drains or sewers and all other water. He shall provide all pumps and equipment and enclosures to provide this protection.
    - 2) Bracing, Shoring, and Sheeting. The General Contractor shall provide all shoring, bracing and sheeting as required for safety and for the proper execution of the work and have same removed when the work is completed.
    - 3) Guard Lights. The General Contractor shall provide and maintain guard lights at all barricades, railings, obstructions in the streets, roads or sidewalks and at all trenches or pits adjacent to public walks or roads.
    - 4) Weather Conditions. The General Contractor shall, at all times, provide protection against weather; rain, winds, storms, frost, or heat, so as to maintain all work, materials, apparatus, and fixtures, free from injury or damage. At the end of the day's work, all new work likely to be damaged shall be covered.
8. WEATHER CONDITIONS
- The Contractor shall protect all portions of his work and all materials, at all times from damage by water, freezing, frost and is to repair, replace and make good to the satisfaction of the Architect, any portion of same which may in the Architect's opinion, have been damaged by the elements.
9. GRADES, LINES, LEVELS, AND SURVEYS
- The Owner will establish the lot lines, restrictions and a bench mark. All other grades, lines, levels, and bench marks shall be established and maintained by the General Contractor, who shall be responsible for same. The General Contractor shall verify all grades, lines, levels, and dimensions as shown on the Drawings and he shall report all errors or inconsistencies in the above to the Architect before commencing work.
- A. The General Contractor shall provide and maintain well-built batter boards at all corners. He shall establish bench marks in not less than two (2) widely separated places. As the work progresses, he shall establish bench marks at each floor, giving exact levels of the various floors.
  - B. As the work progresses, the General Contractor shall lay out in the forms and the rough flooring the exact location of all partitions as a guide to all trades.
  - C. The General Contractor shall verify all grades, lines, levels and dimensions as shown on the Drawings and he shall report any errors or inconsistencies in the above to the Architect before commencing work.
12. REQUIREMENTS IMMEDIATELY AFTER EXECUTION OF CONTRACT
- Immediately after execution of the Contract, the Contractor shall deliver to the Architect the following items which are described more fully in following Articles:
- Schedule of Values
  - Schedule of Operations
  - Progress Charts
  - Samples
  - Superintendent's name and resume of experience
  - List of Subcontractors and Material Suppliers
- A. Schedule of Values on AIA Form G702, or other form approved by the Architect, a detailed breakdown of the Contract Sum indicating the amounts allotted to the various divisions of the work for labor and material. The schedule will serve as a guide to the Architect in determining the amounts due each month as the work progresses. The schedule shall be broken down as directed by the Architect.

- B. Schedule of Operations based on the above Schedule of Values and indicating the progress of the work up to the first day of each month shall be prepared by the Contractor in a form approved by the Architect and shall be delivered to the Architect in duplicate with each application for payment.
  - C. Progress Charts based on the above specified schedule of operations and indicating the progress of the work up to the first day of each month shall be prepared by the Contractor in a form approved by the Architect and shall be delivered to the Architect in duplicate with each application for payment. Progress charts shall be in the form of a bar graph. Along with progress charts the Contractor shall provide an estimated monthly cash flow chart.
13. CONSTRUCTION PROCEDURE
- A. Each Contractor shall schedule his work so as to cause a minimum of interference with business operations during all of the construction work.
  - B. Precautions and Cooperation
    - 1) Notify the Owner 7 days in advance before any utility (natural gas, water, electricity, or sewer) is to be interrupted.
    - 2) With proper notification, interruption in utilities up to 4 hours will be permitted without special provisions by the Contractor. \*If any interruption of a utility exceeds 4 hours the Contractor must make arrangements for temporary alternate utility service.
    - 3) Interruption of utilities must be coordinated with the Owner with changeovers and out of service at night. Weekend and evening changeovers of utilities shall occur with no additional cost to the Owner.
    - 4) Openings to be cut in existing exterior walls must be saw cut. No jackhammer work will be permitted. Notify the Owner 7 days in advance of cutting of exterior walls.
14. TIME EXTENSIONS ADVERSE WEATHER
- A. The Contractor shall comply with all provisions of the General Conditions in submitting any request for extension of Contract Time due to unusually severe weather.
  - B. Definitions:
    - 1. Adverse Weather - Atmospheric conditions at a definite time and place which are unfavorable to construction activities.
    - 2. Unusually Severe Weather - Weather which is more severe than the adverse weather anticipated for the season, location, or activity involved.
  - C. In order for any request of time extension due to unusually severe weather to be valid, the Contractor must document both of the following conditions.
    - 1. The weather experienced at the project site during the Contract period is more severe than the adverse weather anticipated for the project location during any given month.
    - 2. The unusually severe weather actually caused a delay to the completion of the project. The delay must be beyond the control and without fault or negligence by the Contractor.
  - D. The following schedule of monthly anticipated adverse weather delays will constitute the baseline for monthly weather time evaluations. The Contractor's Progress Schedule must reflect these anticipated adverse weather delays in all-weather affected activities:  
MONTHLY ANTICIPATED ADVERSE WEATHER DELAY WORK DAYS BASED ON FIVE (5) DAY WORK WEEK.
- |            |            |            |            |            |            |            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <u>JAN</u> | <u>FEB</u> | <u>MAR</u> | <u>APR</u> | <u>MAY</u> | <u>JUN</u> | <u>JUL</u> | <u>AUG</u> | <u>SEP</u> | <u>OCT</u> | <u>NOV</u> | <u>DEC</u> |
| 10         | 8          | 7          | 6          | 7          | 7          | 5          | 5          | 5          | 4          | 5          | 9          |

END OF SECTION 01010



SECTION 01019  
SPECIAL PROVISIONS

1. GENERAL

Should conflict occur between these Special Provisions and the General Conditions, the requirements of the Special Provisions shall take precedence.

2. TIME OF CONSTRUCTION – PENALTY CLAUSE

- a. Time of Construction - The Contractor will commence the work within ten (10) days after the Architect shall have given the Contractor written notice to commence construction to the satisfaction of the Owner within the calendar days as stated in Paragraph 3, below. The time for completion herein set forth shall be extended for the period of any reasonable delay which is due exclusively to causes beyond the control and without the fault of the Contractor, including acts of God, fires, floods, and direction by the Architect. It is impractical to perform any operation of construction and acts of omissions of the Owner with respect to matters for which Owner is solely responsible; provided, however, that no such extension of time for completion shall be granted the Contractor, unless within ten (10) days after the happening of any event relied upon by the Contractor for such extension of time, the Contractor shall have made a request, therefore, in writing to the Architect. Extended time will be submitted with pay request for Owner's approval.
- b. Penalty Clause - The time of completion of the construction of the project is of the essence of this Contract. Should the Contractor neglect, refuse, or fail to complete the project (100%) within the time herein agreed upon, after giving effect to extensions of time, if any, herein provided; the Owner shall have the right to deduct from and retain out of such money, which may then be due or which may become due and payable to the Contractor, the sum of TWO HUNDRED DOLLARS (\$200.00) per day for each and every day that such construction is delayed in its completion beyond the specified time. If the amount due and to become due from the Contractor to the Owner is insufficient to pay in full any such penalties, the Contractor shall pay to the Owner the amount necessary to effect such payment in full; provided, however, that the Owner shall promptly notify the Contractor in writing of the manner in which the amount retained, deducted or claimed. No award is given to the Contractor for early completion.
- c. Joint Responsibility - The General Contractor and/or Subcontractors causing the delay in completion of the project shall be responsible for payment of the penalty. In no case shall the total penalty for all contracts exceed the sum of daily penalty multiplied by the number of days of delay in completion.

3. WORK SEQUENCE, SCHEDULE FOR COMPLETION AND LIQUIDATED DAMAGES

- A. Schedule requirements for each area are outlined as follows.

Work	Available Start (approximate)	*Substantial Completion	Liquidated Damages
Restroom Remodel	May 24, 2024	August 2, 2024	\$200/Calendar Day

- B. Schedule requirements for final completion – 30 days following substantial completion with liquidated damages equivalent to those identified for substantiation completion.
  - C. \*Construction days stated in the table above are approximate, with Contractor to provide detailed schedule of each area for review and approval by the Owner prior to beginning construction.
4. ALTERNATES - Refer to Alternate Schedule, Section 01030
- a. Alternates specified are not a part of Base Bid, but are Alternates to same, their acceptance being at option of Owner.

5. CASH ALLOWANCES

- a. Costs included in Allowances: Cost of Product to Contractor or Subcontractor, less applicable trade discounts, delivery to site, except those taxes saved by use of Owner's tax exemption.
- b. Costs Not Included in the Allowance: Fees for overhead and profit, product handling at the site, including unloading, uncrating, and storage; protection of Products from elements and from damage and labor for installation and finishing.
- c. Architect Responsibilities:
  1. Consult with Contractor in consideration and selection of Products, suppliers and installers.
  2. Select Products in consultation with Owner and transmit decision to Contractor.
  3. Prepare Proposal Requests and Change Orders.
- d. Contractor Responsibilities:



1. Assist Architect/Engineer in selection of Products, suppliers and installers.
  2. Obtain proposals from suppliers and installers and offer recommendations.
  3. On notification of selection by Architect, execute purchase agreement with designated supplier and installer.
  4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
  5. Promptly inspect Products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.
  6. Product handling at the site, including unloading, uncrating and storage, protection of Products from elements and from damage and labor for installation and finishing.
  7. The Contractor shall include in his Bid all fees for all cash allowances.
- e. Funds will be drawn from Cash Allowances only by written authorization from Owner.
- f. Cash Allowances:

1. Inspection and Testing Allowance Base Bid – The contractor shall include in his bid, an allowance of **\$5,000.00** for direct cost of testing by the approved testing companies. The contractor shall bear all costs associated with coordination, administration scheduling, and supervision of testing companies, and include those costs in his bid.
2. Contingency Allowance Base Bid– In addition to the specification sections listed above, include an allowance of **\$20,000.00** in the general bid and contract amount to be included in the contractors base bid. This allowance shall be used at the sole discretion of the Architect and/or Owner specifically for hidden conditions discovered in the field or on site, the addition of labor, parts and/or materials required for timely completion in conjunction with the general scope of work.

6. ENUMERATION OF DRAWINGS AND SPECIFICATIONS

- a. Correlation. Accompanying these Specifications are the Drawings, which jointly with these Specifications, are intended to explain each other and describe and coordinate the work to be performed under the Contract.
- b. Verification of Documents. Before submitting his bid, each Bidder shall check his set(s) of Drawings and Specifications and advise the Architect if any sheets are missing.
- c. Specifications Explanations. For convenience of reference, the Specifications are separated into Titled Divisions and Sections. Such separation shall not, however, operate to make the Architect an arbiter to establish limits between the Contractor and Subcontractor or Sub-Subcontractor.
- d. Drawings. Refer to LIST OF DRAWINGS.
- e. Specifications. Refer to TABLE OF CONTENTS.

7. WARRANTIES

Before being eligible for final payment, Contractor shall deliver to Owner, through Architect, all special warranties specified for materials, equipment and installation.

8. OPERATING INSTRUCTIONS

Before being eligible for final payment, Contractor shall deliver to Owner, through Architect, three (3) copies of manufacturer's operating and maintenance instructions, and one (1) CD/DVD containing a complete set of manufacturers operating instructions, a complete set of shop drawings on each piece of equipment. Electronic files shall be in PDF format with files organized into single documents for Architectural, Mechanical, and Electrical divisions.

9. AS-BUILT DRAWINGS

Before being eligible for final payment, the Electrical and Mechanical Contractors shall prepare and deliver to Owner, through Architect, One (1) CD/DVD containing AS-BUILT DRAWINGS in PDF format. These drawings shall consist of marked-up prints, and shall show the correct location of every item of equipment, piping, conduit, panel boards, ductwork, switches, valves, etc. If marked-up prints are used, and scanned, they shall be new white prints without miscellaneous markings. All markings shall be clearly legible and identified.

10. CERTIFICATE OF COMPLIANCE

Upon completion of project, Contractor is to furnish written Certification to the Architect that he has complied with every paragraph of the Specifications and Drawings.

11. CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS

Upon completion of project, Contractor shall submit to Owner a signed Contractor's Affidavit of Release of Liens prior to final payment.

12. **CONTRACTOR'S MONTHLY APPLICATION FOR PAYMENT FORM**  
Contractor's monthly Application for Payment shall be submitted as per General Conditions. AIA Document G702, Application and Certificate for Payment is approved and acceptable.
13. **FILING AND RECORDING OF BONDS**  
In addition to furnishing the number of combination Performance Bond and Labor and Materials Payment Bond, and Statutory Bond, if required, the Contractor shall file copies of such bonds with Clerk of the District Court and furnish Architect with receipt furnished by Clerk of the District Court, covering charges for filing and recording of said bonds.
14. **STATUTORY BONDS**  
In addition to furnishing the combination Performance and Labor and Materials Payment Bond specified in General Conditions, the Contractor shall furnish Statutory Bond in an amount not less than 100% of the Agreement in such numbers and form stated in Sample Copy bound in the Specifications. Statutory Bond shall be filed and recorded with Clerk of the District Court, as specified in Paragraph - FILING AND RECORDING OF BONDS.
15. **DOCUMENTS FURNISHED CONTRACTORS**  
The General Contractor will be furnished, free of charge, the following working drawings and specifications, including modifications for construction of the project - 20 sets. The General Contractor will be responsible for distribution of these sets to the Subcontractors and suppliers. The Contractor shall pay the actual cost of reproduction and postage for all additional sets requested by him.
16. **TESTING AND INSPECTIONS**  
a. The General Contractor shall be responsible for coordination and scheduling of all inspections and testing as required by the Contract documents. The Contractor shall include a testing and inspection allowance in his bid as described in paragraph 5.f.3 of this section. The Contractor shall pay all costs associated with testing and all direct costs from the testing/inspection company and shall be deducted from the testing and inspection allowance. Re-testing/inspection costs associated with incorrect or defective work shall be paid by the Contractor and such costs are not to be deducted from the allowance.  
b. All sampling and testing procedures shall be performed by the inspection company responsible for inspection and testing.
17. **SALES TAX EXEMPTIONS**  
a. Materials and equipment incorporated into this project **are exempt** from the payment of sales tax under the laws of the State of Kansas and such sales tax **shall not be included in the Bid** of the Bidder.  
b. The Owner will provide the Contractor with a proper exemption certificate within twenty (20) days of the Contract date.  
1) Should the Owner fail to provide an exemption certificate within the required time period, the Contractor shall be reimbursed monthly for all sales tax amounts for which he becomes liable until such certificate is provided.  
2) To minimize the Contractor's record keeping expense, the Owner shall provide an exemption certificate within sixty (60) days or it shall be presumed that the project will proceed on a non-exempt basis, and the Contract amount shall be equitably adjusted in writing in a lump sum amount sufficient to cover the Contractor's sales tax expense.  
3) Upon issuance of a proper exemption certificate to the Contractor, the Contractor shall assume full responsibility for his own proper use of the certificate, and shall pay all costs of any legally assessed penalties relating to the Contractor's use of the exemption certificate.

END OF SECTION 01019



## SECTION 01030

### ALTERNATES

#### PART 1 – GENERAL

##### 1.1 RELATED DOCUMENTS

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

##### 1.2 SUMMARY

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

##### 1.3 GENERAL

1. The General Contractor shall state in his Bid Form the amount of dollars to be ADDED or DEDUCTED from his Base Bid for the following Alternates.
2. Alternates are not in order of acceptance.
3. It shall be the responsibility of the General Contractor to advise all necessary personnel and suppliers as to the nature and extent of all alternates selected by the owner.
4. Circle Add or Deduct to indicate that the alternate price is to be added or subtracted from the base bid.

##### 1.4 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. 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.

##### 1.5 PROCEDURES

- A. Coordination: Modify 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 modifications 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 – PRODUCT (Not Used)

## PART 3 – EXECUTION

### SCHEDULE OF ALTERNATES

1.       ALTERNATE NO. 1  
Contractor shall state the amount of dollars to be added to the base bid to provide all labor and material to extend new underground sewer pipe through the exterior wall to the existing exterior sewer pipe.  

Add \$ \_\_\_\_\_
  
2.       ALTERNATE NO. 2  
          (As Added by Addendum)  

Add \$ \_\_\_\_\_
  
3.       ALTERNATE NO. 3  
          (As Added by Addendum)  

Add \$ \_\_\_\_\_

END OF SECTION 01030

## SECTION 01270

### UNIT PRICES

#### PART 1 - GENERAL

1. GENERAL
  - A. Work contemplated under various proposed Unit Prices shall include all labor, materials, equipment and services necessary for, or incidental to, completion of all Work under each item.
  - B. Unit Prices shall comply with similar conditions of the Drawings and Specifications provided under the Base Bid.
  - C. Furnish separate Bids for each Unit Price in the space provided on the Form of Bid stating the amount to ADD to the Base Bid in the event of acceptance.
  - D. Each Unit Price proposed shall include all ultimate costs for all omissions, additions, substitutions, and adjustments made by all trades involved.
2. UNIT PRICES
  - A. Unit Prices generally will not be considered in determining the lowest responsible Bidder for the Project. However, if the Owner feels the low Bidder has submitted an inordinately high unit price, it may factor in an estimated number of units and calculate the total unit prices. If this is done, the lowest responsible bidder will be determined by comparing the Base Bid, Alternates if any, and the Unit Price calculation.
  - B. Unit Prices shall be as listed below:
    1. UNIT PRICE NO. 1 (if added by addendum)

Add \$ \_\_\_\_\_ /Unit

END OF SECTION 01270





## SECTION 013516

### ALTERATION PROJECT PROCEDURES

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section includes special procedures for alteration work.

##### 1.2 DEFINITIONS

- A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.
- B. Consolidate: To strengthen loose or deteriorated materials in place.
- C. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.
- F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.
- G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.
- K. Retain: To keep existing items that are not to be removed or dismantled.
- L. Strip: To remove existing finish down to base material unless otherwise indicated.

##### 1.3 PROJECT MEETINGS FOR ALTERATION WORK

- A. Preliminary Conference for Alteration Work: Before starting alteration work, **General Contractor will conduct** conference at **Project site**.
  - 1. Attendees: In addition to representatives of Owner, **General Contractor**, Architect, and Contractor, shall be represented at the meeting.
  - 2. Agenda: Discuss items of significance that could affect progress of alteration work, including review of the following:
    - a. Fire-prevention plan.
    - b. Governing regulations.
    - c. Areas where existing construction is to remain and the required protection.
    - d. Hauling routes.
    - e. Sequence of alteration work operations.
    - f. Storage, protection, and accounting for salvaged and specially fabricated items.
    - g. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
  - 3. Reporting: **General Contractor** will record conference results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from conference.

- B. Coordination Meetings: Conduct coordination meetings specifically for alteration work at **bi-weekly** intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.
  - 1. Agenda: Review and correct or approve minutes of previous coordination meeting. Review other items of significance that could affect progress of alteration work. Include topics for discussion as appropriate to status of Project.
  - 2. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

#### 1.4 MATERIALS OWNERSHIP

- A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.

#### 1.5 QUALITY ASSURANCE

- A. Title X Requirement: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40 CFR 745, Subpart E, and use only workers that are trained in lead-safe work practices.
- B. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.
  - 1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
  - 2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.
- C. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.
- D. Safety and Health Standard: Comply with ANSI/ASSE A10.6.

#### 1.6 STORAGE AND HANDLING OF SALVAGED MATERIALS

- A. Salvaged Materials:
  - 1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
  - 2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
  - 3. Store items in a secure area until delivery to Owner.
  - 4. Transport items to Owner's storage area **designated by Owner**.
  - 5. Protect items from damage during transport and storage.
- B. Salvaged Materials for Reinstallation:
  - 1. Repair and clean items for reuse as indicated.
  - 2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
  - 3. Protect items from damage during transport and storage.

4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.
- C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.
- D. Storage: Catalog and store items within a weathertight enclosure where they are protected from moisture, weather, condensation, and freezing temperatures.
  1. Identify each item for reinstallation with a nonpermanent mark to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying marks.
  2. Secure stored materials to protect from theft.
  3. Control humidity so that it does not exceed 85 percent. Maintain temperatures 5 deg F (3 deg C) or more above the dew point.

## PART 2 - PRODUCTS - (Not Used)

## PART 3 - EXECUTION

### 3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.
  1. Use only proven protection methods, appropriate to each area and surface being protected.
  2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
  3. Erect temporary barriers to form and maintain fire-egress routes.
  4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
  5. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
  6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
  7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
  8. Provide supplemental sound-control treatment to isolate demolition work from other areas of the building.
- B. Temporary Protection of Materials to Remain:
  1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
  2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.
- C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
- D. Utility and Communications Services:
  1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.
  2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
  3. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

- E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.
  - 1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
  - 2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.
- F. Existing Roofing: Prior to the start of work in an area, install roofing protection.

### 3.2 PROTECTION FROM FIRE

- A. General: Follow fire-prevention plan and the following:
  - 1. Comply with NFPA 241 requirements unless otherwise indicated.
  - 2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.
    - a. If combustible material cannot be removed, provide fire blankets to cover such materials.
- B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:
  - 1. Obtain Owner's approval for operations involving use of **open-flame** or welding or other high-heat equipment. Notify Owner **at least 72 hours** before each occurrence, indicating location of such work.
  - 2. As far as practicable, restrict heat-generating equipment to shop areas or outside the building.
  - 3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
  - 4. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature material from reaching surrounding combustible material.
  - 5. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
  - 6. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B, NFPA 241, and as follows:
    - a. Train each fire watch in the proper operation of fire-control equipment and alarms.
    - b. Prohibit fire-watch personnel from other work that would be a distraction from fire-watch duties.
    - c. Cease work with heat-generating equipment whenever fire-watch personnel are not present.
    - d. Have fire-watch personnel perform final fire-safety inspection each day beginning no sooner than **30 minutes** after conclusion of work **in each area** to detect hidden or smoldering fires and to ensure that proper fire prevention is maintained.
    - e. Maintain fire-watch personnel at **each area of** Project site until **60 minutes** after conclusion of daily work.
- C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.

- D. Sprinklers: Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to sprinklers, shield them temporarily with guards.
  - 1. Remove temporary guards at the end of work shifts, whenever operations are paused, and when nearby work is complete.

### 3.3 PROTECTION DURING APPLICATION OF CHEMICALS

- A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.
- B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.
- C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.
- D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.
- E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

### 3.4 GENERAL ALTERATION WORK

- A. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation **photographs**. Comply with requirements in Section 013233 "Photographic Documentation."
- B. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.
- C. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
  - 1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 013516





## SECTION 015000

### TEMPORARY FACILITIES AND CONTROLS

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

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

##### 1.2 SUMMARY

- A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

##### 1.3 DEFINITIONS

- A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

##### 1.4 USE CHARGES

- A. Water Service: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- B. Electric Power Service: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

##### 1.5 SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

##### 1.6 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

##### 1.7 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

#### PART 2 - PRODUCTS

##### 2.1 MATERIALS

- A. Lumber and Plywood: Comply with requirements in Division 6 Section.
- B. Gypsum Board: Minimum 5/8 inch (12.7 mm) thick by 48 inches (1219 mm) wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36/C 36M. TYPE X, Fire Rated.
- C. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.
- D. Paint: Comply with requirements in Division 9 painting Sections.

##### 2.2 TEMPORARY FACILITIES

- A. Field Offices, General: An area of the existing building, as agreed to by the Owner, shall be used as a temporary field office. Contractor shall maintain the area in a clean and orderly manner.
- B. Common-Use Field Office: Of sufficient size to accommodate needs of construction personnel. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
  2. 1 restroom as agreed to by the owner may serve as workers restroom. Contractor is responsible for **daily cleaning of the space**. Failure to clean on a daily basis will result in contractors loss of use, and require temporary facilities be supplied at contractor's expense.
  3. Heating and cooling equipment necessary to maintain a uniform indoor temperature of **68 to 72 deg F (20 to 22 deg C)**.
  4. Lighting fixtures capable of maintaining average illumination of **20 fc (215 lx)** at desk height.
- C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
1. Store combustible materials apart from building.
- 2.3 EQUIPMENT
- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
  - B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
    1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
    2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
    3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filters at air grille in system. Before Substantial Completion, all units and ductwork shall be thoroughly cleaned and restored to new condition.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

### 3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
  1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
  1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- G. Electric Power Service: Use of Owner's existing electric power service will be permitted, Coordination is required to provide power when new service is installed.

- H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
  - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
  - 2. Install lighting for Project identification sign.
    - a. Principal subcontractors' field and home offices.
  - 2. Provide superintendent with cellular telephone for use when away from field office.
- I. Electronic Communication Service: Provide temporary electronic communication service, including electronic mail. Cellular e-mail service is acceptable.

### 3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
  - 1. Provide incombustible construction for offices, shops, and sheds located within construction area or within **30 feet (9 m)** of building lines. Comply with NFPA 241.
  - 2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
  - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
  - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
  - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
  - 2. Remove snow and ice as required to minimize accumulations.
- E. Project Identification and Temporary Signs: Provide Project identification and other signs as indicated. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.
  - 1. Provide temporary, directional signs for construction personnel and visitors.
  - 2. Maintain and touchup signs so they are legible at all times.
- F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.
- G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
  - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- H. Temporary Elevator Use: Refer to Division 14 Sections for temporary use of new elevators.
- I. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.
- J. Temporary Use of Permanent Stairs: Cover finished, permanent stairs with protective covering of plywood or similar material so finishes will be undamaged at time of acceptance.

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
  - 1. Comply with work restrictions specified in Division 1 Section "Summary."
- B. Temporary Erosion and Sedimentation Control: Comply with requirements specified in Division 2 Section "Site Clearing" and Erosion Control drawings.
- C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.
  - 1. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
  - 2. Reference erosion control drawings for additional requirement.
- D. Storm water Control: Comply with authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of storm water from heavy rains.

- E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
  - F. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.
  - G. Site Enclosure Fence: **Before construction operations begin**, furnish, and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
    - 1. Extent of Fence: As required to secure the construction site. The City shall retain access to the existing Maintenance building throughout construction.
    - 2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. **Provide Owner with one set of keys.**
  - H. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
  - I. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
  - J. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
    - 1. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.
  - K. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.
    - 1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant plywood on construction operations side.
    - 2. Insulate partitions to provide noise protection to occupied areas.
    - 3. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
    - 4. Protect air-handling equipment.
    - 5. Weather strip openings.
    - 6. Provide walk-off mats at each entrance through temporary partition.
  - L. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses.
    - 1. Prohibit smoking in completed facilities.
    - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
    - 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
- 3.5 OPERATION, TERMINATION, AND REMOVAL
- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
  - B. Maintenance: Maintain facilities in good operating condition until removal.
    - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
  - C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
    - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
    - 2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not

comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.

3. At Substantial Completion, clean and renovate permanent facilities used during construction period. Reference General Conditions.

### **3.6 SPECIAL CONDITIONS**

- A. Temporary barriers shall be erected with ventilating fans to exterior at all areas where glazed block walls are removed. Comply with requirements, paragraph 3.5.k., along with all federal, state, and local requirements for removing lead based glazed block. Following removal, all exposed surfaces shall be cleaned and “glove tested” to ensure no hazardous dust remains.**

END OF SECTION 015000



## SECTION 01732

### SELECTIVE DEMOLITION

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes the following:
  - 1. Demolition and removal of selected portions of building or structure.
  - 2. Demolition and removal of selected site elements.

##### 1.2 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.
- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Standards: Comply with ANSI A10.6 and NFPA 241.

##### 1.3 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. **Hazardous Materials: It is expected that hazardous materials will be encountered in the Work with required removal of existing Glazed Block walls.**
  - 1. **Contractor is responsible for safe compliant removal/disposal of hazardous materials including final testing at affected areas to ensure no hazardous particles remain.**
  - 2. **Contractor is responsible to build air-tight barricade to prevent dust from material removal from extending beyond the construction limits of the building. Provide ventilation to exterior of the building.**
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.

#### PART 2 - PRODUCTS (Not Used)

#### PART 3 - EXECUTION

##### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.

##### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
- B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Arrange to shut off indicated utilities with utility companies.



2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
  - a. Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.

### 3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
  1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
  2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
  3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
  4. Cover and protect furniture, furnishings, and equipment that have not been removed.
  5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Division 1 Section "Temporary Facilities and Controls."
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
  1. Strengthen or add new supports when required during progress of selective demolition.

### 3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
  1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
  2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
  3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
  5. Maintain adequate ventilation when using cutting torches.
  6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
  7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
  8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  9. Dispose of demolished items and materials promptly.
- B. Reuse of Building Elements: Project has been designed to result in end-of-Project rates for reuse of building elements as follows. Do not demolish building elements beyond what is indicated on Drawings without Architect's approval.
- C. Removed and Reinstalled Items:
  1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.

2. Protect items from damage during transport and storage.
  3. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in small sections. Cut concrete at junctures with construction to remain, using power-driven saw. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete indicated for selective demolition. Neatly trim openings to dimensions indicated.
- B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.
- C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.
- D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.
- E. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI-WP and its Addendum.
  1. Remove residual adhesive and prepare substrate for new floor coverings by one of the methods recommended by RFCI.
- F. Roofing: Remove no more existing roofing than can be covered in one day by new roofing and so that building interior remains watertight and weathertight.
  1. Remove existing roof membrane, flashings, copings, and roof accessories.
  2. Remove existing roofing system down to substrate.
- G. Air-Conditioning Equipment: Remove equipment without releasing refrigerants.

### 3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
  1. Do not allow demolished materials to accumulate on-site.
  2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### 3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 01732



## SECTION 02225

### TRENCHING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Excavating trenches for utilities from 5 feet outside building to municipal utilities.
- B. Compacted fill from top of utility bedding to subgrade elevations.
- C. Backfilling and compaction.

##### 1.02 RELATED SECTIONS

- A. Document: N/A

##### 1.03 REFERENCES

- A. ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.

##### 1.04 FIELD MEASUREMENTS

- A. Verify that survey bench mark and intended elevations for the Work are as shown on drawings.

##### 1.05 COORDINATION

- A. Coordinate all work as required.
- B. Verify work associated with lower elevation utilities are complete before placing higher elevation utilities.
- C. Final location of all underground utilities inside and outside the building shall be noted on the final as-built drawings.

#### PART 2 PRODUCTS

##### 2.01 FILL MATERIALS

- A. Fill: As specified in Section 02205.

#### PART 3 EXECUTION

##### 3.01 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Protect plant life, lawns, rock outcropping and other features remaining as a portion of final landscaping.
- C. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavation equipment and vehicular traffic.
- D. Maintain and protect above and below grade utilities which are to remain.
- E. Cut out soft areas of subgrade not capable of in situ compaction. Backfill with fill and compact to density equal to or greater than requirements for subsequent backfill material.

##### 3.02 EXCAVATION

- A. Excavate subsoil required for utilities to municipal utilities.
- B. Cut trenches sufficiently wide to enable installation and allow inspection.
- C. Do not interfere with 45 degree bearing splay of foundations.
- D. Hand trim excavation. Remove loose matter.
- E. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume.
- F. Correct areas over excavated in accordance with Section 02222.
- G. Stockpile excavated material in area designated on site and remove excess material not being used, from site.

##### 3.03 BACKFILLING

- A. Backfill trenches to contours and elevations with unfrozen materials.

- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
  - C. Granular Fill: Place and compact materials in continuous layers not exceeding 8 inches compacted depth.
  - D. Soil Fill: Place and compact material in continuous layers not exceeding 8 inches compacted depth.
  - E. Employ a placement method that does not disturb or damage foundation perimeter drainage, conduit, or pipes in trench.
  - F. Maintain optimum moisture content of fill materials to attain required compaction density.
  - G. Remove surplus fill materials from site.
  - H. Leave fill material stockpile areas completely free of excess fill materials.
- 3.04 TOLERANCES
- A. Top Surface of Backfilling: Plus or minus 1 inch from required elevations.
- 3.05 FIELD QUALITY CONTROL
- A. Field inspection and testing will be performed under provisions of the General Requirements.
  - B. Compaction testing will be performed in accordance with ANSI/ASTM D698.
  - C. If tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest at no additional cost to the owner.
- 3.06 PROTECTION OF FINISHED WORK
- A. Protect or reshape and recompact fills subjected to vehicular traffic during construction.

END OF SECTION 02225

## SECTION 02260

### EXCAVATION SUPPORT AND PROTECTION

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

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

##### 1.2 SUMMARY

- A. Section includes temporary excavation support and protection systems. **Contractor is responsible for all excavation support and protection systems as required by local, state, and OSHA regulations.**
- B. Related Sections:
  - 1. Division 1 Section "Temporary Facilities and Controls" for temporary utilities and support facilities.

##### 1.3 PERFORMANCE REQUIREMENTS

- A. Furnish, install, monitor, and maintain excavation support and protection system capable of supporting excavation sidewalls and of resisting soil and hydrostatic pressure and superimposed and construction loads.
  - 1. Prevent surface water from entering excavations by grading, dikes, or other means.
  - 2. Install excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to excavation.
  - 3. Monitor vibrations, settlements, and movements.
- B. Excavation support and protection must comply with ASHA, state and local requirements.

##### 1.4 QUALITY ASSURANCE

- A. Preinstallation:
  - 1. Review methods and procedures related to excavation support and protection system including, but not limited to, the following:
    - a. Geotechnical report.
    - b. Existing utilities and subsurface conditions.
    - c. Proposed excavations.
    - d. Proposed equipment.
    - e. Monitoring of excavation support and protection system.
    - f. Working area location and stability.
    - g. Coordination with waterproofing.
    - h. Abandonment or removal of excavation support and protection system.

##### 1.5 PROJECT CONDITIONS

- A. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:
- B. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer. Owner will not be responsible for interpretations or conclusions drawn from the data.
  - 1. Make additional test borings and conduct other exploratory operations necessary for excavation support and protection.
  - 2. The geotechnical report is referenced elsewhere in the Project Manual.
- C. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.
  - 1. During installation of excavation support and protection systems, regularly resurvey benchmarks, maintaining an accurate log of surveyed elevations and positions for comparison with original elevations and positions. Promptly notify Architect if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Provide materials that are either new or in serviceable condition.
- B. Shotcrete: Comply with Division 3 Section "Shotcrete" for shotcrete materials and mixes, reinforcement, and shotcrete application.
- C. Cast-in-Place Concrete: ACI 301, of compressive strength required for application.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.
  - 1. Shore, support, and protect utilities encountered.
- B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- C. Locate excavation support and protection systems clear of permanent construction so that forming and finishing of concrete surfaces are not impeded.
- D. Monitor excavation support and protection systems daily during excavation progress and for as long as excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure that excavation support and protection systems remain stable.
- E. Promptly repair damages to adjacent facilities caused by installing excavation support and protection systems.

END OF SECTION 02260



## SECTION 03200

### CONCRETE REINFORCEMENT

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Reinforcing steel bars, wire fabric, and accessories for cast-in-place concrete.

##### 1.2 SUBMITTALS

- A. Submit under provisions of the General Requirements.
- B. Shop Drawings: Indicate bar sizes, spacings, locations, and quantities of reinforcing steel and wire fabric, bending and cutting schedules, and supporting and spacing devices.

##### 1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with CRSI - Manual of Standard Practice ACI 301 – Specifications for Structural Concrete for Buildings, and ACI 318 – Building Code Requirements for Reinforced Concrete.

##### 1.4 COORDINATION

- A. Coordinate with placement of formwork, formed openings and other Work.

#### PART 2 PRODUCTS

##### 2.1 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615, 40 or 60 ksi yield grade as indicated on the drawings; deformed billet steel bars, unfinished.
- B. Reinforcing Steel Plain Bar and Rod Mats: ASTM A704, ASTM A615, Grade 40 or 60 as indicated on the drawings; steel bars or rods, unfinished.
- C. Welded Steel Wire Fabric: ASTM A815; in flat sheets or coiled rolls; unfinished.

##### 2.2 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage annealed type.
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor barrier puncture.
- C. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic coated steel type; size and shape as required.

##### 2.3 FABRICATION

- A. Fabricate concrete reinforcing in accordance with CRSI Manual of Practice. Locate reinforcing splices not indicated on drawings, at point of minimum stress.

#### PART 3 EXECUTION

##### 3.1 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
- B. Do not displace or damage vapor barrier.
- C. Accommodate placement of formed openings.
- D. Maintain concrete cover around reinforcing as indicated on the drawings or if not indicated as follows:
- E.

Item	Coverage
Beams	1 1/2 inch
Column Ties	1 1/2 inch
Walls (exposed to weather or backfill)	2 inch
Footings and Concrete Formed Against Earth	3 inch
Slabs on Fill	3/4 inch

END OF SECTION 03200



## SECTION 033000

### 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.
- B. Related Requirements:
  - 1. Section 03200 Concrete Reinforcement

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete mixture.
- C. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending, and placement.

##### 1.3 INFORMATIONAL SUBMITTALS

- A. Material certificates.
- B. Material test reports.
- C. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer, detailing fabrication, assembly, and support of formwork.
- D. Floor surface flatness and levelness measurements indicating compliance with specified tolerances.

##### 1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.
  - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- B. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C1077 and ASTM E329 for testing indicated.

##### 1.5 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on concrete mixtures.

##### 1.6 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 306.1.
  - 1. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- B. Hot-Weather Placement: Comply with ACI 301 and ACI 305.1.

#### PART 2 - PRODUCTS

##### 2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
  - 1. ACI 301.
  - 2. ACI 117.

## 2.2 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
- 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, colorless form-release agent that will not bond with, stain, or adversely affect architectural concrete surfaces and will not impair subsequent treatments of those surfaces.

## 2.3 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A615/A615M, Grade 60, deformed.
- B. Low-Alloy-Steel Reinforcing Bars: ASTM A706/A706M, deformed.
- C. Plain-Steel Welded-Wire Reinforcement: ASTM A1064/A1064M, plain, fabricated from as-drawn steel wire into flat sheets.
- D. Deformed-Steel Welded-Wire Reinforcement: ASTM A1064/A1064M, flat sheet.
- E. 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."
- F. Steel dowels shall be placed at perimeter of all floor slab patch and infill. Dowels shall be placed at 12" intervals the entire perimeter of infill.

## 2.4 CONCRETE MATERIALS

- A. Cementitious Materials:
  - 1. Portland Cement: ASTM C150/C150M, Type I/II.
  - 2. Fly Ash: ASTM C618, Class C.
- B. Normal-Weight Aggregates: ASTM C33/C33M, graded.
  - 1. Maximum Coarse-Aggregate Size: 1 inch nominal.
  - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Air-Entraining Admixture: ASTM C260/C260M.
- D. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
  - 1. Water-Reducing Admixture: ASTM C494/C494M, Type A.
  - 2. Retarding Admixture: ASTM C494/C494M, Type B.
  - 3. Water-Reducing and Retarding Admixture: ASTM C494/C494M, Type D.
  - 4. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
  - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C494/C494M, Type G.
  - 6. Plasticizing and Retarding Admixture: ASTM C1017/C1017M, Type II.
- E. Water: ASTM C94/C94M and potable.

## 2.5 WATERSTOPS

- A. Flexible PVC Waterstops: CE CRD-C 572, with factory-installed metal eyelets, for embedding in concrete to prevent passage of fluids through joints. Factory fabricate corners, intersections, and directional changes.
  - 1. Sika/Greenstreak PVC Waterstop or equal by BoMetals or Vinylex Waterstop & Accessories.
    - a. Profile: Ribbed with center bulb
    - b. Dimensions: 6 inches by 1/8 inch to 3/16 inches thick; tapered
  - 2. Self-Expanding Butyl Strip Waterstop: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete
    - a. CETCO Waterstop RX 101 or approved equal
    - b. 3/4 by 1 inch

3. Base Seals Flexible PVC: For embedding into concrete walls at control joints on exterior faces of below grade walls, affixed to forms per manufacturers recommendations
    - a. Greenstreak/Sika #7772 or BoMetals, Inc. #BS-9316
- 2.6 VAPOR RETARDERS
- A. Sheet Vapor Retarder: 15 mil, ASTM E1745, Class A Include manufacturer's recommended adhesive or pressure-sensitive tape. ***Vapor retarder shall be placed under all patched areas of concrete and taped to existing vapor barrier for continuous protection.***
- 2.7 CURING MATERIALS
- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
  - B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.
  - C. Moisture-Retaining Cover: ASTM C171, polyethylene film or white burlap-polyethylene sheet.
  - D. Water: Potable.
  - E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C309, Type 1, Class B, dissipating.
  - F. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C309, Type 1, Class B, nondissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.
  - G. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C309, Type 1, Class B, 18 to 25 percent solids, nondissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.
  - H. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound: ASTM C1315, Type 1, Class A.
  - I. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C1315, Type 1, Class A.
- 2.8 RELATED MATERIALS
- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, non-extruding, resilient, bituminous type.
  - A. Curing Compounds/Densifier/Hardner – For Dock, Trash Room, Pool Equipment Room, Resident Storage and Bike Storage Areas:
    1. Sonneborn - "Lapidolith"
    2. Ashford Formula, by Curecrete, or equal.
  - B. Curing Compounds - One of the following for remaining areas:
    1. Sonneborn – “Kure-n-Seal WB” or equal.
    2. Wet cure w/ blankets.
  - C. Perimeter foundation insulation shall be as indicated, 2” thick by 24” high Styrofoam brand square edge as manufactured by Dow Chemical Company or approved equal.
  - D. Base under interior concrete slabs shall be a minimum of 6" thick (unless otherwise required by Structural or Geotechnical Engineer) base of 1/2" to 3/4" clean free draining crushed limestone over unless otherwise noted.
- 2.9 CONCRETE MIXTURES, GENERAL
- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
  - B. Cementitious Materials: Use fly ash, pozzolan, slag cement, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 15 percent.
  - C. Admixtures: Use admixtures according to manufacturer's written instructions.
    1. Use 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 for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.

## 2.10 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Proportion normal-weight concrete mixture for footings and grade beams as follows:
  1. Minimum Compressive Strength: 3500 psi at 28 days.
  2. Maximum Water-Cementitious Materials Ratio: 0.50.
  3. Slump Limit: 4 inches (100 mm), 8 inches (200 mm) for concrete with verified slump of 2 to 4 inches (50 to 100 mm) before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch (25 mm).
  4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch (25-mm) nominal maximum aggregate size.
- B. Proportion normal-weight concrete mixture for interior flatwork as follows:
  1. Minimum Compressive Strength: 4000 psi at 28 days.
  2. Maximum Water-Cementitious Materials Ratio: 0.46.
  3. Slump Limit: 4 inches (100 mm), 8 inches (200 mm) for concrete with verified slump of 2 to 4 inches (50 to 100 mm) before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch (25 mm).
  4. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent.
  5. Submit test data proving concrete design mix shrinkage is less than 0.034% at 28 days when tested according to ASTM C157 (air drying method only).
- C. Proportion normal-weight concrete mixture for exterior flatwork as follows:
  1. Minimum Compressive Strength: 4500 psi at 28 days.
  2. Maximum Water-Cementitious Materials Ratio: 0.42.
  3. Slump Limit: 4 inches (100 mm), 8 inches (200 mm) for concrete with verified slump of 2 to 4 inches (50 to 100 mm) before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch (25 mm).
  4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch (25-mm) nominal maximum aggregate size.

## 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 C94/C94M and ASTM C1116/C1116M, 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 INSTALLATION

- 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. Chamfer exterior corners and edges of permanently exposed concrete.

### 3.2 EMBEDDED ITEM INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

### 3.3 VAPOR-RETARDER INSTALLATION

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E1643 and manufacturer's written instructions.
- B. Lap joints 6 inches and seal with manufacturers recommended tape. Vapor retarder shall be placed under all patched areas of concrete and taped to existing vapor barrier for continuous protection.

### 3.4 STEEL REINFORCEMENT INSTALLATION

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
  - 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

### 3.5 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 Architect.
- 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. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
  - 2. 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 does 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.

### 3.6 WATERSTOP INSTALLATION

- A. Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions.

### 3.7 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.
- B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is 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. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

### 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, to receive a rubbed finish or to be covered with a coating or covering material applied directly to concrete.
- C. Rubbed Finish: Apply the following to smooth-formed-finished as-cast concrete where indicated:
  - 1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
  - 2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix 1 part portland cement to 1-1/2 parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches, so color of dry grout matches adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.
  - 3. Cork-Floated Finish: Wet concrete surfaces and apply a stiff grout. Mix 1 part portland cement and 1 part fine sand with a 1:1 mixture of bonding agent and water. Add white portland cement in amounts determined by trial patches, so color of dry grout matches adjacent surfaces. Compress grout into voids by grinding surface. In a swirling motion, finish surface with a cork float.
- D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

### 3.9 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
  - 1. Apply float finish to surfaces to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.
- C. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
  - 1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
  - 2. Finish and measure surface so gap at any point between concrete surface and an unlevelled, freestanding, 10-ft.- (3.05-m-) long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4 inch (6 mm).
- D. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with a fine broom.
  - 1. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.
- E. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.
- F. Slip-Resistive Aluminum Granule Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of not less than 95 percent fused aluminum-oxide granules.
  - 1. BASF Corporation, MasterTop 120SR, or approved equal.



### 3.10 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 305.1 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching **0.2 lb/sq. ft. x h** before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. 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 remainder of curing period.
- D. 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.
  - 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. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
    - a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.
  - 4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

### 3.11 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

### 3.12 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Inspections:
  - 1. Steel reinforcement placement.
  - 2. Verification of use of required design mixture.
  - 3. Concrete placement, including conveying and depositing.
  - 4. Curing procedures and maintenance of curing temperature.
- 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 one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
  - 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 (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
6. Compression Test Specimens: ASTM C 31/C 31M.
  - a. Cast and laboratory cure four standard cylinder specimens for each composite sample.
7. 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 laboratory 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.
8. 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.
9. 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 (3.4 MPa).
10. Test results shall be reported in writing to Architect, 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.
11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
12. 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 Architect. 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 Architect.
13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

END OF SECTION 033000

## SECTION 054000

### COLD-FORMED METAL FRAMING

#### 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. This Section includes the following:
  - 1. Interior non-load-bearing wall framing.
- B. Related Sections include the following:
  - 1. Division 05 Section "Cold-Formed Metal Trusses."
  - 2. Division 05 Section "Metal Fabrications" for masonry shelf angles and connections.
  - 3. Division 09 Section "Non-Structural Metal Framing" for interior non-load-bearing, metal-stud framing and ceiling-suspension assemblies.
  - 4. Division 09 Section "Gypsum Board Shaft Wall Assemblies" for interior non-load-bearing, metal-stud-framed, shaft-wall assemblies.

##### 1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide cold-formed metal framing capable of withstanding design loads within limits and under conditions indicated.
  - 1. Design framing system to maintain clearances at openings, to allow for construction tolerances, and to accommodate live load deflection of primary building structure as follows:
    - a. Upward and downward movement of **1 inch**.
- B. Cold-Formed Steel Framing, General: Design according to AISI's "Standard for Cold-Formed Steel Framing - General Provisions."
  - 1. Headers: Design according to AISI's "Standard for Cold-Formed Steel Framing - Header Design."
  - 2. Design exterior non-load-bearing wall framing to accommodate horizontal deflection without regard for contribution of sheathing materials.

##### 1.4 SUBMITTALS

- A. Product Data: For each type of cold-formed metal framing product and accessory indicated.
- B. Shop Drawings: Show layout, spacings, sizes, thicknesses, and types of cold-formed metal framing; fabrication; and fastening and anchorage details, including mechanical fasteners. Show reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.

##### 1.5 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code--Steel," and AWS D1.3, "Structural Welding Code--Sheet Steel."
- B. Fire-Test-Response Characteristics: Where indicated, provide cold-formed metal framing identical to that of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.
- C. AISI Specifications and Standards: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" and its "Standard for Cold-Formed Steel Framing - General Provisions."

##### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Store cold-formed metal framing, protect with a waterproof covering, and ventilate to avoid condensation.

#### PART 2 - PRODUCTS

##### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering cold-formed metal framing that may be incorporated into the Work include, but are not limited to, the following:

- B. Manufacturers: Subject to compliance with requirements, provide cold-formed metal framing by one of the following:
1. Allied Studco.
  2. AllSteel Products, Inc.
  3. California Expanded Metal Products Company.
  4. Clark Steel Framing.
  5. Consolidated Fabricators Corp.; Building Products Division.
  6. Craco Metals Manufacturing, LLC.
  7. Custom Stud, Inc.
  8. Dale/Incor.
  9. Design Shapes in Steel.
  10. Dietrich Metal Framing; a Worthington Industries Company.
  11. Formetal Co. Inc. (The).
  12. Innovative Steel Systems.
  13. MarinoWare; a division of Ware Industries.
  14. Quail Run Building Materials, Inc.
  15. SCAFCO Corporation.
  16. Southeastern Stud & Components, Inc.
  17. Steel Construction Systems.
  18. Steeler, Inc.
  19. Super Stud Building Products, Inc.
  20. United Metal Products, Inc.

## 2.2 MATERIALS

- A. Steel Sheet: ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of grade and coating weight as follows:
1. Grade: 50 KSI.
  2. Coating: **G60**.
- B. Steel Sheet for **Vertical Deflection** Clips: ASTM A 653/A 653M, structural steel, zinc coated, of grade and coating as follows:
1. Grade: **50 (340), Class 1 or 2**.
  2. Coating: **G60**.

## 2.3 INTERIOR NON-LOAD-BEARING WALL FRAMING

- A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
1. Minimum Base-Metal Thickness: 20ga minimum. As noted on Design Drawings.
  2. Flange Width: **1-5/8 inches (41 mm)**.
- B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:
1. Minimum Base-Metal Thickness: **Matching steel studs**.
  2. Flange Width: **1-1/4 inches (32 mm)**.
- C. Vertical Deflection Clips: Manufacturer's standard **bypass** clips, capable of accommodating upward and downward vertical displacement of primary structure through positive mechanical attachment to stud web.
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Dietrich Metal Framing; a Worthington Industries Company.
    - b. MarinoWare, a division of Ware Industries.
    - c. SCAFCO Corporation
    - d. The Steel Network, Inc.
- D. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal and lateral loads and transfer them to the primary structure, and as follows:
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  2. Minimum Base-Metal Thickness: **0.0428 inch (1.09 mm)**.
  3. Flange Width: 2 1/2".

## 2.4 FRAMING ACCESSORIES

- A. Fabricate steel-framing accessories from steel sheet, ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of same grade and coating weight used for framing members.

- B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:
1. Supplementary framing.
  2. Bracing, bridging, and solid blocking.
  3. Web stiffeners.
  4. Anchor clips.
  5. End clips.
  6. Foundation clips.
  7. Gusset plates.
  8. Stud kickers, knee braces, and girts.
  9. Joist hangers and end closures.
  10. Hole reinforcing plates.
  11. Backer plates.

## 2.5 ANCHORS, CLIPS, AND FASTENERS

- A. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.
- B. Anchor Bolts: ASTM F 1554, Grade **36** threaded carbon-steel **hex-headed bolts headless, hooked bolts** and carbon-steel nuts; and flat, hardened-steel washers; zinc coated by **mechanically deposition according to ASTM B 695, Class 50**.
- C. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 5 times design load, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
- D. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times design load, as determined by testing per ASTM E 1190 conducted by a qualified independent testing agency.
- E. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.
1. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere.
- F. Welding Electrodes: Comply with AWS standards.

## 2.6 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: **ASTM A 780**.
- B. Cement Grout: Portland cement, ASTM C 150, Type I; and clean, natural sand, ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.
- C. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, and plasticizing and water-reducing agents, complying with ASTM C 1107, with fluid consistency and 30-minute working time.
- D. Shims: Load bearing, high-density multimonomer plastic, nonleaching.
- E. Sealer Gaskets: Closed-cell neoprene foam, **1/4 inch (6.4 mm)** thick, selected from manufacturer's standard widths to match width of bottom track or rim track members.

## 2.7 FABRICATION

- A. Fabricate cold-formed metal framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.
1. Fabricate framing assemblies using jigs or templates.
  2. Cut framing members by sawing or shearing; do not torch cut.
  3. Fasten cold-formed metal framing members by welding, screw fastening, clinch fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.
    - a. Comply with AWS D1.3 requirements and procedures for welding, appearance, and quality of welds, and methods used in correcting welding work.
    - b. Locate mechanical fasteners and install according to Shop Drawings, with screw penetrating joined members by not less than three exposed screw threads.
  4. Fasten other materials to cold-formed metal framing by welding, bolting, or screw fastening, according to Shop Drawings.
- B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies to prevent damage or permanent distortion.
- C. Fabrication Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable tolerance variation of **1/8 inch in 10 feet (1:960)** and as follows:
1. Spacing: Space individual framing members no more than plus or minus **1/8 inch (3 mm)** from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

2. Squareness: Fabricate each cold-formed metal framing assembly to a maximum out-of-square tolerance of **1/8 inch (3 mm)**.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine supporting substrates and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance.
  1. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Before sprayed fire-resistive materials are applied, attach continuous angles, supplementary framing, or tracks to structural members indicated to receive sprayed fire-resistive materials.
- B. After applying sprayed fire-resistive materials, remove only as much of these materials as needed to complete installation of cold-formed framing without reducing thickness of fire-resistive materials below that are required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.
- C. Install load bearing shims or grout between the underside of wall bottom track or rim track and the top of foundation wall or slab at stud or joist locations to ensure a uniform bearing surface on supporting concrete or masonry construction.
- D. Install sealer gaskets to isolate the underside of wall bottom track or rim track and the top of foundation wall or slab at stud or joist locations.

### 3.3 INSTALLATION, GENERAL

- A. Cold-formed metal framing may be shop or field fabricated for installation, or it may be field assembled.
- B. Install cold-formed metal framing according to AISI's "Standard for Cold-Formed Steel Framing - General Provisions" and to manufacturer's written instructions unless more stringent requirements are indicated.
- C. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.
  1. Screw, bolt, or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding **1/16 inch (1.6 mm)**.
- D. Install cold-formed metal framing and accessories plumb, square, and true to line, and with connections securely fastened.
  1. Cut framing members by sawing or shearing; do not torch cut.
  2. Fasten cold-formed metal framing members by welding, screw fastening, clinch fastening, or riveting. Wire tying of framing members is not permitted.
    - a. Comply with AWS D1.3 requirements and procedures for welding, appearance, and quality of welds, and methods used in correcting welding work.
    - b. Locate mechanical fasteners and install according to Shop Drawings, and complying with requirements for spacing, edge distances, and screw penetration.
- E. Install framing members in one-piece lengths unless splice connections are indicated for track or tension members.
- F. Install temporary bracing and supports to secure framing and support loads comparable in intensity to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
- G. Do not bridge building expansion and control joints with cold-formed metal framing. Independently frame both sides of joints.
- H. Install insulation, specified in Division 07 Section "Thermal Insulation," in built-up exterior framing members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.
- I. Fasten hole reinforcing plate over web penetrations that exceed size of manufacturer's standard punched openings.
- J. Erection Tolerances: Install cold-formed metal framing level, plumb, and true to line to a maximum allowable tolerance variation of **1/8 inch in 10 feet (1:960)** and as follows:
  1. Space individual framing members no more than plus or minus **1/8 inch (3 mm)** from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

### 3.4 INTERIOR NON-LOAD-BEARING WALL INSTALLATION

- A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure as indicated.
- B. Fasten both flanges of studs to bottom track, unless otherwise indicated. Space studs as follows:
  1. Stud Spacing: **16 inches (406 mm)**.

- C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.
  - D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.
    - 1. Install single-leg deflection tracks and anchor to building structure.
    - 2. Install double deep-leg deflection tracks and anchor outer track to building structure.
    - 3. Connect vertical deflection clips to **infill** studs and anchor to building structure.
  - E. Install horizontal bridging in wall studs, spaced in rows indicated on Shop Drawings but not more than **48 inches (1220 mm)** apart. Fasten at each stud intersection.
    - 1. Top Bridging for Single Deflection Track: Install row of horizontal bridging within [**12 inches (305 mm)**] of single deflection track. Install a combination of flat, taut, steel sheet straps of width and thickness indicated and stud or stud-track solid blocking of width and thickness matching studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
      - a. Install solid blocking at **96-inch centers**.
    - 2. Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.
    - 3. Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
    - 4. Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.
  - F. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, fasteners, and stud girts, to provide a complete and stable wall-framing system.
- 3.5 FIELD QUALITY CONTROL
- A. Testing: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
  - B. Field and shop welds will be subject to testing and inspecting.
  - C. Testing agency will report test results promptly and in writing to Contractor and Architect.
  - D. Remove and replace work where test results indicate that it does not comply with specified requirements.
  - E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- 3.6 REPAIRS AND PROTECTION
- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
  - B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer that ensure that cold-formed metal framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION 054000





## SECTION 055000

### METAL FABRICATIONS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section Includes:
  - 1. Miscellaneous steel framing and supports.
  - 2. Miscellaneous steel trim.
  - 3. Loose bearing and leveling plates.
- B. Products furnished, but not installed, under this Section include the following:
  - 1. Loose steel lintels.
  - 2. Steel weld plates and angles for casting into concrete.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: For the following:
  - 1. Nonslip aggregates and nonslip-aggregate surface finishes.
  - 2. Fasteners.
  - 3. Shop primers.
- B. Sustainable Design Submittals: N/A
- C. Shop Drawings: Show fabrication and installation details. [ **Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.** ]

#### PART 2 - PRODUCTS

##### 2.1 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes. B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

##### 2.2 FASTENERS

- A. General: Unless otherwise indicated, provide [Type 304] stainless steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
  - 1. Provide stainless steel fasteners for fastening [aluminum] [stainless steel] [or] [nickel silver].
  - 2. Provide bronze fasteners for fastening bronze.
- B. Cast-in-Place Anchors in Concrete: Either threaded or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A47/A47M malleable iron or ASTM A27/A27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F2329/F2329M.
- C. Post-Installed Anchors: [Torque-controlled expansion anchors] [or] [chemical anchors].
  - 1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated.
  - 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy [Group 1 (A1)] [Group 2 (A4)] stainless steel bolts, ASTM F593 (ASTM F738M), and nuts, ASTM F594 (ASTM F836M).

## 2.3 MISCELLANEOUS MATERIALS

- A. Shop Primers: Provide primers that comply with [Section 099113 "Exterior Painting."] [Section 099123 "Interior Painting."] [Section 099600 "High-Performance Coatings."] [Section 099113 "Exterior Painting," Section 099123 "Interior Painting," and Section 099600 "High-Performance Coatings."]
- B. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
  - 1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- C. Water-Based Primer: Emulsion type, anticorrosive primer for mildly corrosive environments that is resistant to flash rusting when applied to cleaned steel, complying with MPI#107 and compatible with topcoat.
- D. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- E. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.
- F. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- G. Shrinkage-Resistant Grout: Factory-packaged, nonmetallic, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- H. Concrete: Comply with requirements in Section 033000 "Cast-in-Place Concrete" for normal weight, air-entrained concrete with a minimum 28-day compressive strength of **3500 psi**.

## 2.4 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately **1/32 inch (1 mm)** unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing [ **and contour of welded surface matches that of adjacent surface**].
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- H. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, not less than **8 inches (200 mm)** from ends and corners of units and **24 inches (600 mm)** o.c.

## 2.5 MISCELLANEOUS FRAMING AND SUPPORTS

- A. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
  - 1. Fire-Resistance Rating: [**As indicated**].

## 2.6 SHELF ANGLES

- A. Fabricate shelf angles from steel angles of sizes indicated and for attachment to concrete framing. Provide horizontally slotted holes to receive **3/4-inch (19-mm)** bolts, spaced not more than **6 inches (150 mm)** from ends and **24 inches (600 mm)** o.c., unless otherwise indicated.
  - 1. Provide mitered and welded units at corners.
  - 2. Provide open joints in shelf angles at expansion and control joints. Make open joint approximately **2 inches (50 mm)** larger than expansion or control joint.
- B. For cavity walls, provide vertical channel brackets to support angles from backup masonry and concrete.
- C. Galvanize [**and prime**] shelf angles located in exterior walls.
- D. Prime shelf angles located in exterior walls with [**zinc-rich primer.**]
- E. Furnish wedge-type concrete inserts, complete with fasteners, to attach shelf angles to cast-in-place concrete.

## 2.7 MISCELLANEOUS STEEL TRIM

- A. Unless otherwise indicated, fabricate units from steel shapes, plates, and bars of profiles shown with continuously welded joints and smooth exposed edges. Miter corners and use concealed field splices where possible.
- B. Provide cutouts, fittings, and anchorages as needed to coordinate assembly and installation with other work.
  - 1. Provide with integrally welded steel strap anchors for embedding in concrete or masonry construction.
- C. Galvanize [**exterior**] miscellaneous steel trim.
- D. Prime [**exterior**] miscellaneous steel trim with [**zinc-rich primer.**]

## 2.8 LOOSE BEARING AND LEVELING PLATES

- A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.
- B. Galvanize bearing and leveling plates.
- C. Prime plates with [**zinc-rich primer.**] [**primer specified in Section 099600 "High Performance Coatings."**]

## 2.9 LOOSE STEEL LINTELS

- A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single unit where indicated.
- B. Galvanize [**and prime**] loose steel lintels located in exterior walls.
- C. Prime loose steel lintels located in exterior walls with [**zinc-rich primer.**]

## 2.10 STEEL WELD PLATES AND ANGLES

- A. Provide steel weld plates and angles not specified in other Sections, for items supported from concrete construction as needed to complete the Work. Provide each unit with no fewer than two integrally welded steel strap anchors for embedding in concrete.

## 2.11 GENERAL FINISH REQUIREMENTS

- A. Finish metal fabrications after assembly.

## 2.12 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A153/A153M for steel and iron hardware and with ASTM A123/A123M for other steel and iron products.
  - 1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
- B. Shop prime iron and steel items [ **not indicated to be galvanized**] unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
  - 1. Shop prime with [ **universal shop primer**]
- C. Preparation for Shop Priming: Prepare surfaces to comply with [ **requirements indicated below:** ]
  - 1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
  - 2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
  - 3. Items Indicated to Receive Primers Specified in Section 099600 "High-Performance Coatings": SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
  - 4. Other Steel Items: SSPC-SP 3, "Power Tool Cleaning."
  - 5. Galvanized-Steel Items: SSPC-SP 16, "Brush-off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals."
- D. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.

- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

### 3.2 INSTALLATION OF MISCELLANEOUS FRAMING AND SUPPORTS

- A. Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.
- B. Anchor supports for **[ceiling hung toilet partitions]** **[operable partitions]** **[overhead doors]** **[and]** **[overhead grilles]** securely to, and rigidly brace from, building structure.
- C. Anchor shelf angles securely to existing construction with **[expansion anchors]** **[anchor bolts]** **[through bolts]**.
- D. Support steel girders on solid grouted masonry, concrete, or steel pipe columns. Secure girders with anchor bolts embedded in grouted masonry or concrete or with bolts through top plates of pipe columns.

### 3.3 INSTALLATION OF PREFABRICATED BUILDING COLUMNS

- A. Install prefabricated building columns to comply with ANSI/AISC 360, "Specifications for Structural Steel Buildings," and with requirements applicable to listing and labeling for fire resistance rating indicated.

### 3.4 INSTALLATION OF METAL BOLLARDS

- A. Fill metal-capped bollards solidly with concrete and allow concrete to cure seven days before installing.  
Anchor bollards in concrete **[with pipe sleeves preset and anchored into concrete]** **[in formed or core-drilled holes not less than 42 inches (1050 mm) deep and 3/4 inch (19 mm) larger than OD of bollard]**. Fill annular space around bollard solidly with shrinkage-resistant grout; mixed and placed to comply with grout manufacturer's written instructions. Slope grout up approximately **1/8 inch (3 mm)** toward bollard.
- B. Anchor bollards in place with concrete footings. Center and align bollards in holes **3 inches (75 mm)** above bottom of excavation. Place concrete and vibrate or tamp for consolidation. Support and brace bollards in position until concrete has cured.
- C. Fill bollards solidly with concrete, mounding top surface to shed water.

### 3.5 INSTALLATION OF BEARING AND LEVELING PLATES

- A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.
- B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with shrinkage-resistant grout. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

### 3.6 REPAIRS

- A. Touchup Painting:
  - 1. Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION 055000



## SECTION 06114

### WOOD BLOCKING

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Blocking in wall and roof openings.
- B. Wood furring and grounds.
- C. Concealed wood blocking for support of toilet and bath accessories, wall cabinets, and wood trim.
- D. Telephone and electrical panel boards.

#### PART 2 PRODUCTS

##### 2.1 MATERIALS

- A. Miscellaneous Blocking: Minimum stud grade.
- B. Plywood: APA Rated Sheathing, Grade C-D; Exposure Durability 1; sanded. Exposed panel boards to be A-B face grade.
- C. Roof Curbs and Cants: Treated lumber.

##### 2.2 ACCESSORIES

- A. Fasteners and Anchors:
  - 1. Fasteners: Hot-dipped galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.
  - 2. Anchors: Toggle bolt type for anchorage to hollow masonry. Expansion shield and lag bolt type for anchorage to solid masonry or concrete. Bolt or ballistic fastener for anchorages to steel.

#### PART 3 EXECUTION

##### 3.1 FRAMING

- A. Set members level and plumb, in correct position.
- B. Place horizontal members flat, crown side up.
- C. Construct curb members of single pieces.
- D. Space framing and furring 16 inches o.c.
- E. Curb roof openings except where prefabricated curbs are provided. Form corners by alternating lapping side members.
- F. Coordinate curb installation with installation of decking and support of deck openings, roofing vapor retardant, and parapet construction.

##### 3.2 SHEATHING

- A. Secure sheathing to framing members with ends over firm bearing and staggered.
- B. Install telephone and electrical panel boards with plywood sheathing material where required. Over size the panel by 12 inches on all sides. Phone and Panel boards to be painted to match adjacent wall.

END OF SECTION 06114





## SECTION 06200

### FINISH CARPENTRY

#### PART 1 GENERAL

- 1.1 SECTION INCLUDES
  - A. Finish carpentry items, other than shop prefabricated casework.
  - B. Hardware and attachment accessories.
- 1.2 QUALITY ASSURANCE
  - A. Perform work in accordance with AWI Custom.
- 1.3 DELIVERY, STORAGE, AND HANDLING
  - A. Deliver, store, protect, and handle products to site under provisions of the General Requirements.
  - B. Protect work from moisture damage.
- 1.4 FIELD MEASUREMENTS
  - A. Verify that field measurements are as indicated on shop drawings and as instructed by the manufacturer.
- 1.5 COORDINATION
  - A. Coordinate the work with plumbing and electrical rough-in, and installation of associated and adjacent components.

#### PART 2 PRODUCTS

- 2.1 LUMBER MATERIALS
  - A. Softwood Lumber: Graded in accordance with AWI Custom; Reference schedule at the end of this section; **Select White Birch**, maximum moisture content of 6 percent; suitable for transparent finish. Reference Drawings for locations.
  - B. Softwood Lumber: Graded in accordance with AWI Custom; Reference schedule at the end of this section; **Paint Grade Pine or Poplar**, maximum moisture content of 6 percent; suitable for paint finish. Reference Drawings for locations. No visible knots accepted.
- 2.2 SHEET MATERIALS
  - A. Exterior Plywood: Exposed to weather shall be group 1, Exterior type, Grade A-B or A-C as required for exposure.
  - B. Interior Plywood: Interior or Exterior type, Group 1 or 2, Grade B-D where concealed, Grade A-C one side exposed and Grade A-A two sides exposed.
  - C. Wood Particleboard: ANSI A208.1 Type 1; AWI standard, composed of wood chips, medium density, made with high waterproof resin binders; of grade to suit application; sanded faces.
  - D. Wood Siding ply-bead board; 3/8" x4' x8' pine board. Sand smooth and prep for stain or paint application. Beads located 1 1/2 – 2 inches on center.
- 2.3 FASTENERS
  - A. Fasteners: Of size and type to suit application; Galvanized finish in concealed locations and Brass or Chrome finish in exposed locations.
- 2.4 FABRICATION
  - A. Fabricate to AWI Custom standards.
  - B. Shop assemble work for delivery to site, permitting passage through building openings.
  - C. Fit exposed sheet material edges with 3/8 inch matching hardwood edging. Use one piece for full length only.
  - D. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

## 2.5 SHOP FINISHING

- A. Sand work smooth and set exposed nails and screws.
- B. Apply wood filler in exposed nail and screw indentations.
- C. On items to receive transparent finishes, use wood filler which matches surrounding surfaces and of types recommended for applied finishes.
- D. Paint or Seal, stain and varnish exposed to view surfaces. Brush apply only.
  - 1. Prime paint. Seal surfaces in contact with cementitious materials.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

### 3.2 INSTALLATION

- A. Install work in accordance with AWI Custom Quality Standard.
- B. Set and secure materials and components in place, plumb and level.
- C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.
- D. Install components trim with nails, screws, bolts with blind fasteners or wall adhesive by gun application.
- E. Install hardware in accordance with manufacturer's instructions.

### 3.3 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment in accordance with manufacturer's instructions.
- B. Brush apply two coats of preservative treatment on wood in contact with cementitious materials, roofing and related metal flashings. Treat site-sawn cuts.
- C. Allow preservative to dry prior to erecting members.

### 3.4 PREPARATION FOR SITE FINISHING

- A. Site Finishing: Refer to Section 09900.
- B. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

### 3.5 SCHEDULE

- A. Interior: Wood base, wood wall trim, wood window trim and sill, wood door trim, vanity front nosing:
  - 1. **Select White Birch,** stained and finished, where indicated on drawings
  - 2. **Paint Grade Pine,** painted as indicated, where indicated on drawings

END OF SECTION 06200

## SECTION 06410

### CUSTOM CASEWORK

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Countertops, base and wall cabinets.
- B. Cabinet hardware.
- C. Prefinished surfaces and preparation for site finishing.
- D. Preparation for installing utilities.

##### 1.2 SUBMITTALS

- A. Shop Drawings: Indicate materials, component profiles and elevations, assembly methods, joint details, fastening methods, accessory listings, hardware location, and schedule of finishes.

##### 1.3 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years' documented experience.

##### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle products to site.
- B. Protect units from moisture damage.

##### 1.5 FIELD MEASUREMENTS

- A. Verify that field measurements are as on shop drawings.

##### 1.6 COORDINATION

- A. Coordinate the work with plumbing and electrical rough-in.

#### PART 2 PRODUCTS

##### 2.1 MANUFACTURERS

- A. Salina Planning Mill.
- B. Crestwood Inc.
- C. Timberline Cabinetry & Millwork
- D. Technique Manufacturing
- E. Substitutions: Under provisions of the General Requirements.

##### 2.2 WOOD MATERIALS

- A. Softwood Lumber: FS MM-L-736; graded in accordance with AWI Premium Grade; average moisture content of 6 percent; species and grade as follows: **Select White Birch**, Edging & trim where indicated and detailed.
- B. Lumber - **Poplar**, maximum moisture content of 6 percent; suitable for transparent and painted finishes. Where used, oak base and trim is to be painted, with visible grain.

##### 2.3 SHEET MATERIALS

- A. Hardwood Plywood: S 51; graded in accordance with AWI, core materials of veneer, and lumber, type of glue recommended for application; face veneer and cuts as follows:

ITEM	FACE SPECIES
Drawer 'Box' Construction	Melamine (unless noted otherwise) - Per AWI Premium Grade.
Door Construction	Plastic Laminate (u.n.o.) - Per AWI Premium Grade.
Cabinet 'Body' Construction	Plastic Laminate at exposed (u.n.o.). Melamine at unexposed (u.n.o.) - Per AWI Premium Grade.
Backs	Plastic Laminate at exposed (u.n.o.). Melamine at unexposed (u.n.o.) - Per AWI Premium Grade.
Shelving	Melamine (u.n.o.) - Per AWI Premium Grade.

(Note: Full line of colors for all melamine selected by architect.)

- B. High Performance particleboard Core:
    - 1. Particleboard to be ¾" thick of 45 lb. Density, and balanced construction with moisture Content not to exceed 8%. All particleboards shall meet or exceed the requirements for its type and classification under Commercial Standard CS-236-66, Federal Specifications LLL-B-800A, and ASTM D 1037-78.
    - 2. Particleboard shall meet the following performance requirements. Submit compliance data from the manufacturer prior to fabrication:
 

Screw Holding, Face	471 lbs.
Modulus of Rupture	2,400 psi.
Modulus of Elasticity	450,000 psi.
Internal Bond	90 psi.
Surface Hardness	900 lbs.
  - C. Hardboard: Hardboard shall meet or exceed Commercial Standards CS-251 and Federal Specifications LLL-B-00810. Tempered hardboard ¼" thick, smooth both sides.
- 2.4 MANUFACTURERS - PLASTIC LAMINATE
- A. Wilsonart, Formica, Pionite or Nevamar. (Full Line of all manufacturers including **premium grade**)
- 2.5 SOLID SURFACE COUNTERTOPS
- A. LG Solid Surface, Hi-Macs
    - 1. ¾" or 1" standard thickness with 1-1/2" thick eased edges.
    - 2. Color to be SELECTED FROM Pricing Category 5/E.
  - B. Equivalent product by Corian – color to be selected by architect for match. No cost shall be incurred by owner for substituted products or color selection (price category 5/E)
  - C. Rectangular Restroom vanity tops to be provided with integral lavatory sinks. Style equal to LG Single Sink CB483 style sink, ADA compliant.
- 2.6 LAMINATE MATERIALS
- A. Plastic Laminate: AWI, 0.040 inch Post Forming 0.050 inch General Purpose quality; color, pattern, and surface texture as selected.
  - B. Laminate Backing Sheet: 0.020 inch Backing Sheet grade, undecorated plastic laminate.
- 2.7 ACCESSORIES
- A. Adhesive: FS MMM-A-130 contact adhesive, type recommended by AWI and laminate manufacturer to suit application.
  - B. Fasteners: Size and type to suit application.
  - C. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; approved finish in exposed locations.
  - D. Concealed Joint Fasteners: Threaded steel.
  - E. PVC Edge Band: 3mm Color and Pattern matched to plastic laminated face. Typical at all doors, drawers, and open cabinet edges.
- 2.8 HARDWARE
- A. Hinges: Grass #3803 120° – nickel finish.
  - B. Pulls: Hafele, Crescent Collection, Nickel, brushed
  - C. Drawer Slides: Hafele, Accuride #3832SC.
  - D. Adjustable shelf clips: Knappe & Vogt, 3256 zinc finish.
  - E. Cushion Bumpers: Hafele #356.21.428 – clear. Two on each door & drawer.
  - F. "Recessed" Adjustable shelf standards: Knappe & Vogt, #255, zinc finish.
  - G. Grommets: Hafele, Series #429, full range colors. Quantity (22). Locate per shop drawings review.
  - H. Catches: Amerock, #9783 magnetic.
- 2.9 FINISHING MATERIALS
- A. Stain, Varnish and Finishing Materials: As specified in Section 09900.

## 2.10 FABRICATION

- A. Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.
- B. Fit shelves, doors, and exposed edges with .3mm pvc. Pattern and color match to laminate cabinets. Use one piece for full length only.
- C. Cap exposed plastic laminate finish edges with material of same finish and pattern.
- D. Door and Drawer Fronts: 3/4 inch thick; overlay style.
- E. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.
- F. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arrises. Locate counter butt joints minimum 2 feet from sink cut-outs.
- G. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
- H. Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes, fixtures, and fittings. Verify locations of cutouts from on-site dimensions. Seal contact surfaces of cut edges.

## 2.11 FINISHING

- A. Sand work smooth and set exposed nails and screws.
- B. Apply wood filler in exposed nail and screw indentations.
- C. On items to receive transparent finishes, use wood filler, which matches surrounding surfaces and of types recommended for applied finishes.
- D. Seal, stain, and varnish exposed to view surfaces.
- E. Seal, stain, and varnish internal exposed to view and semi-concealed surfaces.
- Seal surfaces in contact with cementitious materials.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify adequacy of backing and support framing.

### 3.2 INSTALLATION

- A. Set and secure casework in place; rigid, plumb, and level.
- B. Use fixture attachments in concealed locations for wall mounted components.
- C. Use concealed joint fasteners to align and secure adjoining cabinet units and counter tops.
- D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.
- E. Secure cabinet and counter bases to floor using appropriate angles and anchorages.
- F. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

### 3.3 ADJUSTING

- A. Adjust moving or operating parts to function smoothly and correctly.

### 3.4 CLEANING

- A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

### 3.5 SCHEDULE

- A. Adjustable shelving longer than 34" to be 1" thick.

END OF SECTION 06410



## SECTION 07213

### BATT INSULATION

#### PART 1 GENERAL

- 1.1 SECTION INCLUDES
  - A. Batt insulation at exterior wall and roof locations.
  - B. Batt insulation for filling perimeter window and door shim spaces, crevices in exterior wall and roof.
  - C. Sound batt insulation at interior walls.
  - D. Vapor retarder.
- 1.2 REFERENCES
  - A. ASTM C665 - Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
  - B. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.
- 1.3 SYSTEM DESCRIPTION
  - A. Materials of This Section: Provide continuity of thermal barrier at building enclosure in conjunction with thermal insulating materials in Section 07212. Overlap insulations to ensure complete thermal envelope at all exterior surfaces.
- 1.4 COORDINATION
  - A. Coordinate the work with all related Sections for installation of vapor retarder and other forms of insulation.

#### PART 2 PRODUCTS

- 2.1 MANUFACTURERS - INSULATION MATERIALS
  - A. OWENS-CORNING FIBERGLASS Product - thermal batt insulation. **Class A** rated.
  - B. Substitutions: Under provisions of the General Requirements.
- 2.2 MATERIALS
  - A. Batt Insulation: ASTM C665; preformed glass fiber batts; loose laid and taped, conforming to the following:
    - 1. Thermal Resistance: R-19, (6") at walls and R-19, (6") at roof truss bottom chords, and above Storm shelter attic areas.
    - 2. Batt Size: 3", 6", and 8" per exterior wall thickness.
    - 3. Facing: FSK faced. Located at all exterior wall locations.
  - B. Sound Batt Insulation:
    - 1. Batt size: 3" and 6".
    - 2. Facing: Unfaced.
  - C. Tape: Self-adhering type as recommended by the manufacturer, mesh reinforced, 2 inches wide.

#### PART 3 EXECUTION

- 3.1 EXAMINATION
  - A. Verify site conditions.
  - B. Verify that substrate, adjacent materials, and insulation are dry and ready to be installed.

### 3.2 INSTALLATION

- A. Install insulation and vapor retarder in accordance with manufacturer's instructions.
- B. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- C. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within the plane of insulation.
- D. Install with applied vapor retarder membrane facing warm side of building spaces. Lap ends and side flanges of membrane, caulk or tape. Open seams are not acceptable.
- E. Tape seal top ends of facing to underside of metal deck.
- F. Tape seal butt ends, lapped flanges, and tears or cuts in membrane.

END OF SECTION 07213



## SECTION 07900

### JOINT SEALERS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Preparing substrate surfaces.
- B. Sealant and joint backing.

##### 1.2 QUALITY ASSURANCE

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform acoustical sealant application work in accordance with ASTM C919.

##### 1.3 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- B. Applicator: Company specializing in performing the work of this section with minimum years documented experience.

##### 1.4 WARRANTY

- A. Provide five year warranty.
- B. Warranty: Include coverage for installed sealants and accessories which fail to achieve air tight seal, water tight seal, and exhibit loss of adhesion or cohesion, or do not cure.

#### PART 2 PRODUCTS

##### 2.1 SEALANTS

- A. Acrylic Latex (Interior minor movement): ASTM C920, single component, non-staining, non-bleeding, non-sagging, white color paintable; manufactured by Pecora AC 20 + silicone.
- B. Butyl Sealant (Interior minor movement): ASTM C920 single component, solvent release, non-skinning, non-sagging, white, paintable; manufactured by Pecora BC 158.
- C. Silicone Sealant (Exterior, Interior major movement and Water Resistant Areas): Single component, solvent curing, non-sagging, non-staining, fungus resistant, non-bleeding; color as selected or to match adjacent materials; manufactured by Pecora 895 silicone.
- D. Bituminous Based (Paving): Single component, asphalt compound, elongation capability of 0 to 2 percent of joint width.

##### 2.2 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: ASTM D1056; round, closed or open cell polyethylene foam rod; oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

#### PART 3 EXECUTION

##### 3.1 EXAMINATION

- A. Verify that substrate surfaces and joint openings are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

- A. Remove loose materials and foreign matter which might impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions.
- D. Protect elements surrounding the work of this section from damage or disfiguration.

3.3 INSTALLATION

- A. Install sealant in accordance with manufacturer's instructions.
- B. Measure joint dimensions and size materials to achieve required 2:1 width/depth ratios.
- C. Install joint backing to achieve a neck dimension no greater than 1/3 of the joint width.
- D. Install bond breaker where joint backing is not used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

3.4 SCHEDULE

- A. Interior; Caulk around all frames, windows, doors, openings, trim, etc., as required to seal or fill gaps, cracks, to make material transitions watertight and/or visually tight and finished.
- B. Exterior; Caulk around all frames, windows, doors, openings, trim, material transitions etc., as required to seal or fill gaps, cracks, to make material transitions watertight and/or visually tight finished.
- C. Paving; Caulk as required to seal or fill gaps, expansion joints, and cracks to make transitions watertight and/or visually tight.

END OF SECTION 07900

## SECTION 08800

### GLAZING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Glass and glazing for Sections referencing this Section for products and installation.

##### 1.02 PERFORMANCE REQUIREMENTS

- A. Glass and glazing materials of this Section shall provide continuity of building enclosure vapor and air barrier:
  - 1. To utilize the inner pane of multiple pane sealed units for the continuity of the air and vapor seal.
  - 2. Maintain continuous air and vapor barrier throughout glazed assembly from glass pane to heel bead of glazing sealant.
- B. Size glass to withstand dead loads and positive and negative live loads acting normal to plane of glass as calculated in accordance with UBC 91 code.
- C. Limit glass deflection to 1/200 flexure limit of glass with full recovery of glazing materials, whichever is less.

##### 1.03 ENVIRONMENTAL REQUIREMENTS

- A. Do not install glazing when ambient temperature is less than 50 degrees F.
- B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

##### 1.04 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on shop drawings.

##### 1.05 COORDINATION

- A. Coordinate the Work with glazing frames, wall openings, and perimeter air and vapor seal to adjacent Work.

##### 1.06 WARRANTY

- A. Provide five year manufacturer's warranty.
- B. Warranty: Include coverage for sealed glass units from seal failure, interpane dusting, or misting, reflective coating on mirrors, delamination of laminated glass and replacement of same.

#### PART 2 PRODUCTS

##### 2.01 FLAT GLASS MATERIALS

- A. Float Glass (Type FG): Clear, 1/4 inch thick minimum.
- B. Safety Glass (Type SG): Clear; fully tempered with horizontal tempering 1/4 inch thick minimum at all locations where glass is less than 18 inches above finished floor.
- C. Tinted Glass (Type TG): Float type, heat strengthened, light reducing, color (to be selected); 1/4 inch thick minimum.
- D. Wire Glass (Type WG): Clear, polished both sides diagonal mesh of woven stainless steel wire of 1/2 inch grid size; 1/4 inch thick.
- E. Mirror Glass (Type MG): Clear tempered safety type with copper and silver coating, organic overcoating, rounded, sanded, edges, 1/4 inch thick minimum, sizes as indicated.
- F. Shatter Resistant Glass: (Type SRG): Clear laminated, 5/16 inch composite - 2 - 1/8-inch thick panels laminated with .060 inner layer film, sizes as indicated.
- G. Spandrel Glass: (Type SPG). Laminated/insulated, provide manufacturer's coating at inside pane for completely opaque system. Units shall meet thermal performance requirements of paragraph 2.02.

##### 2.02 SEALED INSULATING GLASS MATERIALS

- A. Insulated Glass Units (Type IG): ASTM E774 and E773; double pane with edge seal; outer pane of 1/4 inch glass tinted at exterior, inner pane of 1/4 inch glass. Low-E coating on third surface. Provide integral blinds and all operating hardware where indicated on drawings.
- B. Performance Requirements:
  - U-Value: Winter Night – 0.29 Summer Day – 0.27
  - R-Value – 3.43
  - Shading Coefficient (sc) – 0.37
  - Solar Heat Gain Coefficient (SHGC) – 0.32

Relative Heat Gain (RHG) – 77  
Light to Solar Gain (LSG) – 1.23  
Sound Transmission Class (STC) - 35

2.03 SPECIAL GLASS AND GLAZING SYSTEMS

- A. Exterior window Shatter Resistant Glass – Manufacturer’s Shatter Resistant “Hurricane” glass, interior pane. Insulated units.
  - 1. Product – as provided by window manufacturer. Reference window specifications.
- B. Shatter-Resistant Glass – Combination Tempered/Laminate glass, (2) 3/16” panes with integral film. Clear finish.
- C. Etched/Frosted Glass.
  - 1. Etching shall be factory finished or screen printed.

2.04 GLAZING COMPOUNDS

- A. Exterior windows not shop installed shall be glazed with vinyl or neoprene gaskets, extruded elastic polybutene tape sealant, a combination of polysulphide base compound and elastic glazing compound, or a combination of extruded polysulphide tape, polysulphide base compound elastic glazing compound.
- B. Doors and interior stopped -in glass shall be glazed using putty or elastic glazing compound and stop beads.
- C. Exterior glazing of steel sash shall be DAP Metal Glaze. Interior glazing of steel sash shall be DAP Steel Sash Putty.

2.05 GLAZING ACCESSORIES

- A. Setting Blocks: Neoprene or Silicone, 80 - 90 Shore A durometer hardness, 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 or Silicone, 50 - 60 Shore A durometer hardness, minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self-adhesive on one face.
- C. Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 - 15 Shore A durometer hardness; coiled on release paper.
- D. Glazing Clips: Manufacturer’s standard type.
- E. Mirror Attachment Accessories: Mirror adhesive, chemically compatible with mirror coating and wall substrate.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that openings for glazing are correctly sized and within tolerance.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.

3.02 PREPARATION

- A. Clean contact surfaces with solvent and wipe dry.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant.
- D. Install glazing in accordance with Flat Jobbers Association Glazing Manual.

3.03 INSTALLATION - MIRRORS

- A. Set mirrors with adhesive, applied in accordance with adhesive manufacturer’s instructions.
- B. Place plumb and level.

3.04 CLEANING

- A. Remove glazing materials from finish surfaces. Remove labels after work is complete. Clean glass and mirrors.

3.05 PROTECTION OF FINISHED WORK

- A. After installation, mark pane with an “X” by using removable plastic tape or paste. Do not mark heat absorbing or reflective glass units.

END OF SECTION 08800

## SECTION 09260

### GYPSUM BOARD SYSTEMS

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Metal stud wall framing.
- B. Acoustical insulation.
- C. Gypsum board.
- D. Water resistant tile backer board.
- E. Taped and sanded joint treatment, **Level 5 finish.**

##### 1.02 REFERENCES

- A. ASTM C36 - Gypsum Wallboard.
- B. ASTM C475 - Joint Treatment Materials for Gypsum Wallboard Construction.
- C. ASTM C630 - Water Resistant Gypsum Backing Board.

#### PART 2 PRODUCTS

##### 2.01 MANUFACTURERS - GYPSUM BOARD SYSTEM

- A. National Gypsum Company.
- B. Other acceptable manufacturers offering equivalent products.
- C. Substitutions: Under provisions of the General Requirements.

##### 2.02 FRAMING MATERIALS

- A. Reference Section 9111 Metal Stud.

##### 2.03 GYPSUM BOARD MATERIALS

- A. Fire Rated Gypsum Board: ASTM C36; Gypsum, Type "X" fire resistive type, UL rated; 5/8 inch thick, maximum permissible length; ends square cut, tapered edges. Product – **Goldbond XP Fireshield.**
- B. Gypsum Wall Board Tile Backer: ASTM C36; Gypsum, Type "X" fire resistive type, UL rated; 5/8 inch thick. Acrylic coated mold and moisture resistant panel. Panels to be cut to maximum permissible length; ends square cut, tapered edges. Product – **Goldbond eXP. Located at all locations scheduled to receive tile.**

##### 2.04 ACCESSORIES

- A. Acoustical Insulation: glass fiber, friction fit type, unfaced, 3 1/2 or 5 1/2 inch thick.
- B. Corner Beads: Metal. Provide 1" Radius corners at EBD office and EBD classrooms.
- C. Edge Trim: GA 201 and GA 216; Type L bead.
- D. Joint Materials: ASTM C475; reinforcing tape, joint compound, adhesive, and water.
- E. Fasteners: ASTM C1002, Type S12, W, and GA-216.
- F. Resilient channel: USG, RC-1 or equal.
- G. Molded Reveal Joints: Fry Reglet, 1/4" x 1/4"; DRM – 25 – 25.

#### PART 3 EXECUTION

##### 3.01 EXAMINATION

- A. Verify that site conditions are ready to receive work and opening dimensions are as indicated on shop drawings.

##### 3.02 WOOD STUD INSTALLATION

- A. Stud Spacing: 16 inches on center, unless noted otherwise.
- B. Refer to Drawings for indication of partitions, extend stud framing through the ceiling to the structure above, unless noted otherwise. Maintain clearance under structural building members to avoid deflection transfer to studs. Provide extended leg ceiling runners.
- C. Door Opening Framing: Install double studs at door frame jambs.
- D. Blocking: Nail wood blocking to studs or Bolt or screw steel channels to studs. Install blocking for support of plumbing fixtures, toilet partitions, wall cabinets, toilet accessories, and hardware.

- 3.03 WALL FURRING INSTALLATION
- A. Erect wall furring for direct attachment to concrete block walls.
  - B. Erect furring channels vertically; space maximum 16 inches on center, not more than 4 inches from floor and ceiling lines, abutting walls.
  - C. Install thermal insulation between furring channels directly attached to concrete masonry walls in accordance with manufacturer's instructions.
  - D. Erect free-standing metal stud framing tight to concrete masonry walls, attached by adjustable furring brackets in accordance with manufacturer's instructions.
- 3.04 FURRING FOR FIRE RATINGS
- A. Install furring as required for fire resistance ratings indicated.
  - B. Columns in rated walls shall be wrapped independently from wall system.
- 3.05 CEILING FRAMING INSTALLATION
- A. Coordinate location of hangers with other work.
  - B. Install ceiling framing independent of walls, columns, and above ceiling work.
  - C. Reinforce openings in ceiling suspension system which interrupt main carrying channels or furring channels, with lateral channel bracing. Extend bracing minimum 24 inches past each end of openings.
  - D. Laterally brace entire suspension system.
- 3.06 ACOUSTICAL ACCESSORIES INSTALLATION
- A. Install resilient channels at maximum 12 inches on center. Locate joints over framing members.
  - B. Place acoustical insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions, and tight to items passing through partitions.
- 3.07 GYPSUM BOARD INSTALLATION
- A. Install gypsum board in accordance with manufacturer's instructions.
  - B. Erect single layer standard gypsum board vertical, with ends and edges occurring over firm bearing.
  - C. Erect single layer fire rated gypsum board vertically, with edges and ends occurring over firm bearing.
  - D. Use screws when fastening gypsum board to metal furring or framing.
  - E. Place second layer perpendicular to first layer. Offset joints of second layer from joints of first layer.
  - F. Erect exterior gypsum soffit board perpendicular to supports, with staggered end joints over supports.
  - G. Treat cut edges and holes in moisture resistant gypsum board and exterior gypsum board with sealant.
  - H. Place control joints consistent with lines of building spaces and as directed. Install at approximately 30' intervals in walls. Coordinate locations with Architect.
  - I. Place corner beads at external corners as indicated. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials as indicated.
  - J. Caulk at sound walls.
- 3.08 JOINT TREATMENT
- A. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready for finishes.
  - B. Feather coats onto adjoining surfaces so that camber is maximum 1/32.
  - C. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile.
  - D. Tape joints and corners of cementitious backing board using cement based joint compound as recommended by the manufacturer.
  - E. **Level 5 finish.** Level 4 finish is acceptable at storage rooms only.
- 3.09 TOLERANCES
- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION 09260

## SECTION 09306

### FLOOR AND WALL TILE

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Ceramic tile wall finish using the thinset application method.

##### 1.02 SUBMITTALS

- A. Submit under provisions of the General Requirements.
- B. Product Data: Provide instructions for using adhesives and grouts.
- C. Samples: Submit two samples illustrating pattern, color variations, and grout color.

##### 1.03 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect, and handle products to site.
- B. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

##### 1.04 ENVIRONMENTAL REQUIREMENTS

- A. Do not install adhesives in an unventilated environment.
- B. Maintain 50 degrees F during installation of mortar materials.

##### 1.05 EXTRA MATERIALS

- A. Provide 10 square feet (full/uncut) of each type of tile to Owner.

#### PART 2 PRODUCTS

##### 2.01 TILE MANUFACTURER

- A. Crossville – Products: Reference Schedule.
- B. Substitutions: Under provisions of the General Requirements, Materials listed are for pricing purposes, final colors to be selected by Architect. Alternate tile manufacturers and styles may be selected at architect's discretion, based on similar cost and availability.

##### 2.02 CERAMIC TILE MATERIALS

- A. Porcelain Floor, Wall & Base Tile: ANSI A137.1, reference schedule.

##### 2.04 ADHESIVE MATERIALS

- A. Adhesives: Thinset bond type as recommended and/or manufactured by the tile manufacturer.

##### 2.05 MORTAR MATERIALS

- A. Mortar Materials: Portland cement, sand, latex additive, and water as recommended and/or manufactured by the tile manufacturer, color to be selected.

##### 2.06 GROUT MIX

- A. Mix and proportion pre-mix grout materials in accordance with manufacturer's instructions. Color to be selected.
- B. Manufacturer: TEC, AccuColor Power Grout, full range of colors.

#### PART 3 EXECUTION

##### 3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work.

##### 3.02 PREPARATION

- A. Protect surrounding work from damage or disfiguration.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- D. Apply sealer conditioner to substrate surfaces in accordance with adhesive manufacturer's instructions.

##### 3.03 INSTALLATION - THINSET METHOD

- A. Install adhesive tile, thresholds, and grout in accordance with manufacturer's instructions and/or the TCA Handbook.
  - B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.
  - C. Place edge strips at exposed tile edges.
  - D. Cut and fit tile tight to penetrations through tile. Form corners and bases neatly. Align floor, base, and wall joints.
  - E. Place tile joints uniform in width, Floor joints shall be as narrow (approximately 1/8") as allowed by manufacturer, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout. Provide mock-up area (approximately 4'x4') for owner review of joint spacing and grout depth prior to installation of remaining tile.
  - F. **Exposed edges of tiles, including bottom, top, and exterior corners, shall be finished with aluminum edge strip. Finish tile neatly to edge strip with maximum 1/8" grout width between tile and edge strip.**
  - G. Sound tile after setting. Replace hollow sounding units.
  - H. Keep expansion, control joints free of adhesive or grout. Apply sealant to joints.
  - I. Allow tile to set for a minimum of 48 hours prior to grouting.
  - J. Grout tile joints.
  - K. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.
  - L. Install shower pans per manufacturer's instructions.
- 3.04 CLEANING
- A. Clean tile and grout surfaces.
  - B. **Grout Joints shall be sealed (2 coats) using sealer product as recommended by the grout manufacturer.**
- 3.05 PROTECTION OF FINISHED WORK
- A. Do not permit traffic over finished floor surface for 4 days after installation.
  - B. Install protective material as required to protect finished installation thru completion of construction.
- 3.06 SCHEDULE OF TILES
- A. Styles and colors identified are for bidding purposes, final styles and colors may vary depending on availability and alternate manufacturers or installers.
    - 1. Wall Tile CT1 (Field) – Crossville, Argent, 12" x 24"; 9.5mm thickness; non-polished; Color – to be selected. Pattern per drawings; 5 colors minimum (1 field color/4 accent colors).
    - 2. Wall Tile CT1 (Field) – Crossville, Argent, 6" x 24"; 9.5mm thickness; non-polished; Color – to be selected. Pattern per drawings; 4 colors minimum (4 accent colors).
    - 3. Grout colors to be selected by Architect.

END OF SECTION 09306



SECTION 09400  
RESINOUS FLOORING

PART 1 - GENERAL

- 1.1 RELATED DOCUMENTS
- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Sections, apply to work of this Section.
- 1.2 SUMMARY
- A. This Section includes the following:
1. Industrial densified flooring consisting of 100% solids Urethane Cementitious System with or without selected mineral aggregates.
  2. Seamless Resinous Flooring.
  3. Basis of Specifications. Desco Coatings: Granite Series.
- 1.3 QUALITY ASSURANCE
- A. All materials must be recommended and manufactured by a single supplier to insure compatibility and proper chemical and mechanical bond.
- B. Surfacing shall be applied by a surfacing applicator approved by the Architect, with a minimum of seven (7) years' experience installing the brand of surfacing in similar size and function projects. A list of ten (10) completed projects using the specified materials must be submitted proving seven (7) years' experience by the lead mechanic.
- C. Surfacing applicator shall provide to the architect a completed list of jobs including the names of the Architect, General Contractor, and Owner, telephone numbers of all concerned, materials used, quantity installed, and date completed on similar projects.
- D. Surfacing applicator must provide a written joint guarantee for materials and workmanship between applicator and surfacing manufacturer for one (1) year.
- E. Surfacing applicator or manufacturer seeking approval of products other than what is specified must supply samples, full product information, technical data with specifications, certification from an independent testing laboratory that the product being submitted for approval meets all requirements of the performance properties specified within this specification, installation instructions and comply with the above quality assurances in writing fourteen (14) days before bid letting. Omission of any item will result in an automatic rejection.
- F. Bidders will be notified by addendum of substitute surfacing materials, if approved.
- 1.4 SUBMITTALS
- A. Surfacing applicator shall submit samples of color and textures for Architect's approval.
- B. Prior to commencing work, at architect's discretion, applicator shall install a 100 square foot sample on the job of desired color and texture and when approved, this will serve as the standard for the entire project.
- 1.5 PRODUCT STORAGE AND ENVIRONMENTAL CONDITIONS
- A. Material temperatures shall be a minimum of 55°F before use.
- B. Work on seamless flooring shall not commence until the building can be maintained at a minimum temperature of 55°F for 48 hours before, during and 48 hours after application. Areas shall also be broom clean and reasonably dust free and shall have adequately controlled ventilation with bright, uniform lighting.

## 1.6 PROJECT CONDITIONS

- A. Before commencing work, ensure environmental and site conditions are suitable for application and curing.
- B. Surfaces shall be acceptable in accordance with flooring manufacturer's recommendations.
- C. Notify Architect and Contractor in writing of unsuitable surfaces and conditions. Commencement of work shall imply acceptance of surfaces and working conditions.
- D. Recommended Moisture Vapor Transmission Considerations:
  - 1. Placement of on-grade slabs over a Class A vapor retarder as defined by ASTM E-145.
  - 2. A water cement ratio of 0.45 and 0.5.
  - 3. Curing by ASTM C-171 sheet materials for curing concrete.
  - 4. A slump in the range of 3 to 4 inches which can be increased by the use of super plasticizers.
- E. Substrate requirements (See Appendix A).

## 1.7 PROTECTION

- A. Protect adjacent surfaces from damage resulting from work of this trade. If necessary, mask and/or cover adjacent surfaces, fixtures, cabinet work, equipment, etc. by suitable means.

## 1.8 WARRANTY

- A. Applicator shall notify manufacturer of project requirements before bidding. Manufacturer shall provide single source warranty for entire installation including labor for two years. Warranty shall include removal and replacement if proven defective. Defective items are, but not limited to, debonding, discoloration, excessive wear, and staining by bodily fluids.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Industrial epoxy flooring shall be densified **DescoCrete Industrial Urethane Cement Flooring with Broadcasted Flake**. Chips as supplied by Desco Coatings are to be used to achieve all color.
  - I. Basis of Specifications
    - a. **DescoCrete Industrial Cementitious Urethane System** is a heavy duty system designed for labs, and process rooms where chemical exposure and hot water cleaning is present. Textures available are Orange Peel and a rough texture.
- B. Aggregates shall be a premixed blend of natural minerals with a minimum Moh's hardness of 6.
- C. Matrix shall be a three-component 100% solids Urethane Cementitious material.
- D. Cementitious patching compound (OPTIONAL): Cemtex/cement.
- E. The industrial Urethane floor will conform to the following physical properties:

<u>TEST</u>	<u>METHOD</u>	<u>RESULTS</u>
Compressive Strength	ASTM C-579	9,500 psi
Flexural Strength	ASTM C-580	3,600 psi
Impact Resistance	Gardner Impact Tester	Passes 160 in/lbs. with no cracking, spalling, chipping, or loss of adhesion.
Impact Strength	MIL-D-3134F	Passes 16 ft/lb impact w/no chipping, cracking or delamination.

Taber Abrasion	ASTM D-4060	0.08 gm
Washability	Gardner Straight Line Method	No effect after 5,000 cycles.
Fire Resistance	ASTM D-635 Tunnel Test	Self-Extinguishing
Heat Resistance	ASTM C-484	Intermediate 180°F

F. Chemical Resistance:

<b><u>REAGENT</u></b>	<b><u>FILM INTEGRITY</u></b>
Coca Cola (Conc. Syrup)	Unaffected
Fountain Pen Ink	Unaffected
Milk	Unaffected
Urine	Unaffected
Chromic Acid 40%	Unaffected
Citric Acid 40%	Unaffected
Lactic Acid 10%	Unaffected*
Nitric Acid 15%	Unaffected
Phosphoric Acid 20%	Unaffected
Sulfuric Acid 20%	Unaffected
Alcohol-Denatured	Unaffected
Gasoline	Unaffected
Jet Fuel (Skydrol A500)	Unaffected
Methyl Ethyl Ketone	Unaffected
Mineral Spirits	Unaffected
Xylol	Unaffected
Ammonium Hydroxide 20%	Unaffected
Potassium Hydroxide 25%	Unaffected
Sodium Hydroxide 25%	Unaffected
Urea 10%	Unaffected
Calcium Chloride 10%	Unaffected
Sodium Carbonate 10%	Unaffected
Sodium Chloride 50%	Unaffected
*denoted very slight blistering.	

PART 3 - EXECUTION

3.1 FLOORING PREPARATION

- A. Surface must be clean, sound, and dry.
- B. Effectively remove concrete laitance on accessible floor surfaces by mechanical shot blast. Acid etching is not acceptable unless approved in writing before bid by EPA and accompanying proof of proper disposal techniques and facilities.
- C. Areas where flooring is existing must be cleaned to remove all floor material, grease, or any residue that might retard interfacial adhesion between substrate and surfacing.
- D. At existing terrazzo floors, contractor shall evaluate the existing floor condition and prep to receive the flooring installation. Prep shall include, but is not limited to abrading the finish, surface application of bonding agents or other materials, levelling the floor, filling cracks, etc.

3.2

3.3 FLOORING APPLICATION

- A. Prior to installation, flooring representative shall review subfloor prep and state in writing that the subfloor is acceptable to receive new floor finish. Per Base Bid, Contractor shall install top coat vapor barrier at concrete subfloor.
- B. Existing terrazzo floors shall be prepped and treated to receive new epoxy floor system.
- C. Apply flooring in accordance with manufacturer's printed instructions, employing lead mechanic qualified under the quality assurance portion of this specification, using equipment specifically designed for this purpose.
- D. Apply surfacing at an approximate thickness of 1/4". Surfacing shall be slurry applied with broadcast aggregates and 100% solids Novolac finish coat applied.
- E. Install 4"-6" integral cove base on all adjacent surfaces with 1" radius cove.
- F. Finish neatly to metal edge strip at base of tile, installed by flooring contractor.
- G. Finished work shall match approved samples; be uniform in thickness, sheen, color, pattern, and texture; and be free from defects detrimental to performance.

3.4 PROTECTION

- A. After completion of flooring the General Contractor/Owner shall protect flooring from damage by other trades.

END OF SECTION 09400

## **APPENDIX A**

### **GENERAL SUBFLOOR REQUIREMENTS**

#### **CONCRETE -- Section 03300**

1. Concrete should have been designed and installed to minimize random cracking and slab deflections; provide sufficient control joints and isolation joints.
2. Placement of on-grade slabs over a Class A vapor retarder as defined by ASTM E-1745.
3. A water cement ratio of 0.45 and 0.5.
4. Curing by ASTM C-171 sheet materials for curing concrete.
5. A slump in the range of 3 to 4 inches which can be increased by the use of super plasticizers.
6. Variation in plane shall be determined by the specifier and be in accordance with ACI 302, Guide for Concrete Floor and Slab, as well as ASTM E 1155- 87, Determining floor Flatness and Levelness Using the F Number System.
7. Proper slope to drain(s) must be maintained.
8. Steel trowel finish, but not burnished to a high sheen
9. Concrete to be clean, crack free, sound and durable (minimum compressive strength of 3,000 psi) and dry (3% maximum moisture content by mass.)
10. Concrete must be free of hydrostatic and/or capillary moisture pressure and should not be in direct contact with the ground. An effective vapor barrier and properly engineered soil are required.
11. Allow concrete to cure 28 days minimum before applying floor system.
12. Concrete after surface preparation is to be free from sealers or membrane curing agents.
13. Light weight and insulating concrete not recommended under flooring system.  
(See applicator and manufacturer for alternate recommendations.)

## **APPENDIX A (Continued)**

### **CONTROL JOINTS -- Section 03250**

1. Install control and expansion joints in accordance with standard practice per ACI- 501.
2. The floor contractor may fill non-moving control joint(s) with approved elastomeric sealant or full depth semi-rigid two-component epoxy joint filler, designed specifically for this purpose (use full depth joint filler when reinforcement of the joint edges is desirable), or two-component epoxy and filler (epoxy to be same material as flooring). Movement may crack surfacing unless proper detailing has beendone.
3. Filling moving isolation joints or expansion joints is not recommended.
4. Filling of non-moving isolation joints with elastomeric caulking and sealants or with a semi-rigid epoxy joint filler or two-component epoxy and filler is acceptable. Movement may crack surfacing unless proper detailing has been done.
5. Joint identified by owner/designer or general contractor as moving joints shall be treated by terminating flooring on each side of joint. After flooring is completed, joint shall then be filled by sealant contractor.

## SECTION 09511

### SUSPENDED ACOUSTICAL CEILINGS

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Suspended metal grid ceiling system and perimeter trim, to match existing.
- B. Acoustical tile, to match existing.

##### 1.02 SYSTEM DESCRIPTION

- B. Suspension system to rigidly secure acoustical ceiling system including integral mechanical and electrical components with maximum deflection of 1/360.

##### 1.03 SUBMITTALS

- A. Product Data: Provide data on metal grid system components, and acoustical units.
- B. Samples: Submit two samples illustrating material and finish of acoustical units.
- C. Samples: Submit two samples each, of suspension system main runner, cross runner, and edge trim.
- D. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

##### 1.04 QUALIFICATIONS

- A. Grid and Tile Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- B. Conform to applicable code for fire rated assembly and combustibility requirements for materials.

##### 1.05 ENVIRONMENTAL REQUIREMENTS

- A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

#### PART 2 PRODUCTS

##### 2.01 MANUFACTURERS - SUSPENSION SYSTEM

- A. Armstrong - Product: Prelude XL Heavy Duty Galvanized Exposed Tee 15/16"
- B. Substitutions: Under provisions of the General Requirements.

##### 2.02 SUSPENSION SYSTEM MATERIALS

- A. Grid Materials: Commercial quality cold rolled steel with galvanized coating.
- B. Exposed Grid Surface Width: 15/16 inch.
- C. Grid Finish: White.
- D. Accessories: Stabilizer bars, clips, splices, edge moldings, hold down clips, and light protection hoods required for rated suspended grid systems.
- E. Support Channels and Hangers: Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.

##### 2.03 ACOUSTICAL UNIT MATERIALS

- A. Acoustical Panels: ASTM E1264, conforming to the following:
  - 1. Type 1 – Armstrong Fissured, High CAC, High NRC, 2'x2'x5/8", Square edge. Item No. 756, Non-Rated, Class A, Color White. Located at all new restroom and general spaces.

##### 2.04 ACCESSORIES

- A. Touch-up Paint: Type and color to match acoustical and grid units.
- B. Extra Material: Provide one unopened carton of each ceiling type to the owner.

## PART 3 EXCUTION

### 3.01 EXAMINATION

- A. Verify that layout of hangers will not interfere with other work.

### 3.02 INSTALLATION - LAY-IN GRID SUSPENSION SYSTEM

- A. Install suspension system in accordance with ASTM C636 and manufacturer's instructions and as supplemented in this section.
- B. Install system capable of supporting imposed loads to a deflection of 1/360 maximum.
- C. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.
- D. Locate system on room axis according to reflected plan.
- E. Install after major above ceiling work is complete. Coordinate the location of hangers with other work.
- F. Supply hangers or inserts for installation to Section with instructions for their correct placement.
- G. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- H. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- I. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability. Support fixture loads by supplementary hangers located within 6 inches of each corner; or support components independently.
- J. Do not eccentrically load system, or produce rotation of runners.
- K. Install edge molding at intersection of ceiling and vertical surfaces, using longest practical lengths. Miter corners. Provide edge moldings at junctions with other interruptions.
- L. Form expansion joints as required or detailed. Form to accommodate plus or minus 1 inch movement. Maintain visual closure.
- M. Install light fixture boxes constructed of gypsum board above light fixtures in accordance with UL assembly requirements at fire rated ceiling assemblies at rated ceiling assemblies.
- N. Install support hangers at (4) four corners of recessed light fixtures.

### 3.03 INSTALLATION - ACOUSTICAL UNITS

- A. Install acoustical units in accordance with manufacturer's instructions.
- B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Lay directional patterned units one way with pattern parallel to shortest room axis. Fit border trim neatly against abutting surfaces.
- D. Install units after above ceiling work is complete.
- E. Install acoustical units level, in uniform plane, and free from twist, warp and dents.
- F. Cut tile to fit irregular grid and perimeter edge trim. Field rabbet tile edge. Double cut and field paint exposed edges of tegular units.
- G. Where bullnose concrete block corners or round obstructions occur, provide preformed closers to match edge molding.
- H. Install hold-down clips to retain panels tight to grid system as required to meet ratings.

### 3.04 ERECTION TOLERANCES

- A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

END OF SECTION 09511



## SECTION 09650

### RESILIENT FLOORING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Resilient base.

##### 1.02 SUBMITTALS

- A. Product Data: Provide data on specified products, describing physical characteristics; sizes, patterns and colors available.
- B. Samples: Submit one sample, illustrating color and pattern for each floor material.
- C. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and seaming recommendations.

##### 1.03 REGULATORY REQUIREMENTS

- A. Conform to code for flame/smoke rating requirements in accordance with ASTM E84.

##### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect, and handle products to site under provisions of the General Requirements.
- B. Protect roll materials from damage.

##### 1.05 ENVIRONMENTAL REQUIREMENTS

- A. Store materials for three days prior to installation in area of installation to achieve temperature stability.
- B. Maintain ambient temperature required by adhesive manufacturer three days prior to, during, and 24 hours after installation of materials.

##### 1.06 MAINTENANCE DATA

- A. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

##### 1.07 EXTRA MATERIALS

- A. Provide 10 lineal feet of base material specified.
- B. Provide 60 sf of each type & color of flooring.

#### PART 2 PRODUCTS

##### 2.01 MATERIALS - BASE

- A. Base: FS SS-W-40. Rubber; coved; premolded external corners only where mitering and bending of base is not possible or where returns are less than 4" long.
  - 1. Height: 4 inch and 4 ½ inch. 4 ½ inch located at existing classroom per Alternate 2 floor replacement. 1" toe where abutting existing glazed block base.
  - 2. Thickness: 1/8 inch thick
  - 3. Length: Roll. Strips are not acceptable. Maximum of 1 joint/seam on any wall.
  - 4. Manufacturers:
    - a) Roppe.
    - b) Johnsonite
    - c) Or as approved equal.
  - 5. Color to be selected from manufacturer full range
- B. Base: Rubber; Non-cove at base of columns.

##### 2.03 MATERIALS – VINYL COMPOSITION TILE FLOORING

- A. Vinyl Composition Tile: ASTM F1066, Armstrong. Any/all standard Excelon and Excelon Tile series. VCT is installed where abutting and patching due to new finishes.
  - 1. Size: 12 x 12 inch.
  - 2. Thickness: 1/8 inch
  - 3. Five colors to be selected. Pattern and colors to match existing.

## 2.04 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.
- B. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer.
- C. Edge Strips: Flooring material as approved. Transition strip shall be low profile type. Submit for approval.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify concrete floors are dry to a maximum moisture content of 7 percent, and exhibit negative alkalinity, carbonization, or dusting.
- B. Verify floor and lower wall surfaces are free of substances that may impair adhesion of new adhesive and finish materials.
- C. Note – Hallway floor finish project may occur simultaneously with restroom renovations. Coordination and minor adjustment of finishes may be required. Contractor shall work with Owner's flooring contractor to coordinate any field modifications.

### 3.02 PREPARATION

- A. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.
- B. The contractor and installer shall review existing floor condition. Existing carpet backing, adhesive residue, and any and all materials shall be thoroughly removed, cleaned, and prepped prior to any floor installation.
- C. The Contractor and installer shall include all cost for labor and material to prep, level, skim, grind, and any other measures to ensure level and stable subfloor prior to installing flooring to ensure that final floor installation is free of bumps, waves, and physical and/or aesthetic flaws in the installation.
- D. Prohibit traffic until filler is cured.
- E. Vacuum clean substrate.
- F. Apply primer as recommended by manufacturer.

### 3.03 INSTALLATION - BASE

- A. Fit joints tight and vertical. Maintain minimum measurement of 18 inches between joints.
- B. Miter internal corners. At external corners, use premolded units or "V" cut back of base strip to 2/3 of its thickness and fold. At exposed ends, use premolded units.
- C. Install base on solid backing. Bond tight to wall and floor surfaces.
- D. Scribe and fit to door frames and other interruptions.

### 3.04 INSTALLATION - TILE FLOORING

- A. Install in accordance with manufacturer's instructions.
- B. Mix tile from container to ensure shade variations are consistent when tile is placed.
- C. Spread only enough adhesive to permit installation of materials before initial set.
- D. Set flooring in place, press with heavy roller to attain full adhesion.
- E. Lay flooring with joints and seams parallel to building lines to produce symmetrical tile pattern.
- F. Install LVT to random pattern. Allow minimum 1/2 full size tile width at room or area perimeter.
- G. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar.
- H. Install resilient edge strips at unprotected or exposed edges, and where flooring terminates.
- I. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

### 3.05 CLEANING

- A. Clean all work as described in the General Requirements.
- B. Remove excess adhesive from floor, base, and wall surfaces without damage.
- C. Clean, seal, and buff floors in accordance with manufacturer's instructions.

### 3.06 PROTECTION OF FINISHED WORK

- A. Protect finished Work.
- B. Prohibit traffic on floor finish for 48 hours after installation.

END OF SECTION 09650

## SECTION 09900

### PAINTING

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Surface preparation and field application of paints and coatings.

##### 1.2 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- B. Applicator: Company specializing in performing the work of this section with minimum years documented experience and approved by manufacturer.

##### 1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- C. Container label to 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. Store paint materials 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.

##### 1.4 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- C. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- D. Minimum Application Temperature for Varnish and Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 foot candles measured mid-height at substrate surface.

##### 1.5 EXTRA MATERIALS

- A. Provide one gallon of each color to owner.

#### PART 2 PRODUCTS

##### 2.1 MANUFACTURERS

- A. Manufacturer - Paint, Transparent Finishes, Stain, Primer Sealers, and Block Filler by SHERWIN- WILLIAMS or as approved equal.

##### 2.2 MATERIALS

- A. Coatings: Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating; good flow and brushing properties; capable of drying or curing free of streaks or sags.
- B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.
- C. Patching Materials: Latex filler.
- D. Fastener Head Cover Materials: Latex filler.

##### 2.3 FINISHES

- A. Refer to schedule at end of section for surface finish schedule.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that surfaces and substrate conditions are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Test shop applied primer for compatibility with subsequent cover materials.

### 3.2 PREPARATION

- A. Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
- B. Correct defects and clean surfaces which affect work of this section. Remove existing coatings that exhibit loose surface defects.
- C. Seal with shellac and seal marks which may bleed through surface finishes.
- D. Impervious Surfaces: Remove mildew by scrubbing with solution of trisodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- E. Aluminum Surfaces Scheduled for Paint Finish: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.
- F. Asphalt, Creosote, or Bituminous Surfaces Scheduled for Paint Finish: Remove foreign particles to permit adhesion of finishing materials. Apply compatible sealer or primer.
- G. Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.
- H. Concrete Floors: Remove contamination, acid etch, and rinse floors with clear water. Verify required acid-alkali balance is achieved. Allow to dry.
- I. Copper Surfaces Scheduled for a Paint Finish: Remove contamination by steam, high pressure water, or solvent washing. Apply vinyl etch primer immediately following cleaning.
- J. Copper Surfaces Scheduled for a Natural Oxidized Finish: Remove contamination by applying oxidizing solution of copper acetate and ammonium chloride in acetic acid. Rub on repeatedly for required effect. Once attained, rinse surfaces with clear water and allow to dry.
- K. Gypsum Board Surfaces: Fill minor defects with filler compound. Spot prime defects after repair.
- L. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- M. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of trisodium 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.
- N. Plaster Surfaces: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
- O. Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand, power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
- P. Shop Primed Steel Surfaces: 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.
- Q. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.
- R. Interior Wood Items Scheduled 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.

- S. Exterior Wood Scheduled to Receive Paint Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior caulking compound after prime coat has been applied.
- T. Exterior Wood Scheduled to Receive Transparent Finish: Remove dust, grit, and foreign matter; seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes with tinted exterior caulking compound after sealer has been applied.
- U. Glue-Laminated Beams: Prior to finishing, wash surfaces with solvent, remove grease and dirt.
- V. Wood and Metal Doors Scheduled for Painting: Seal top and bottom edges with primer.

### 3.3 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry.
- C. Apply each coat to uniform finish.
- D. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
- E. Sand wood and metal lightly between coats to achieve required finish.
- F. Vacuum clean surfaces free of loose particles. Use tack cloth just prior to applying next coat.
- G. Allow applied coat to dry before next coat is applied.
- H. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- I. Prime concealed surfaces of interior and exterior woodwork with primer paint.
- J. Prime concealed surfaces of interior woodwork scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.

### 3.4 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- B. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports except where items are prefinished.
- C. Paint interior surfaces of air ducts, and convactor and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint, to visible surfaces. Paint dampers exposed behind louvers, grilles, and convactor and baseboard cabinets to match face panels.
- D. Paint exposed conduit and electrical equipment occurring in finished areas.
- E. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.
- F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

### 3.5 CLEANING

- A. Collect waste material, which may constitute a fire hazard, place in closed metal containers and remove daily from site.

### 3.6 SCHEDULE

The following are for exterior and interior surfaces, and are all products of Sherwin-Williams.

## EXTERIOR SURFACES

### 1. WOOD, COMPOSITE SIDING, PLYWOOD

- A. Flat Finish/Latex Base
  - 1st Coat: Exterior Oil Based Wood Primer
  - 2nd Coat: Duration, Satin
  - 3rd Coat: Duration, Satin

### 2. FERROUS METAL

- A. Painted (Gloss Finish/Alkyd Base)
  - 1st Coat: Pro Industrial Pro-Cryl Universal Metal Primer, B66-310
  - 2nd Coat: Waterbased Acrolon 100 Polyurethane Gloss, B65-700 Series
  - 3rd Coat: Waterbased Acrolon 100 Polyurethane Gloss, B65-700 Series

3. GALVANIZED and ALUMINUM METALS
  - A. Painted (Semi-Gloss Finish/Latex Base)
    - 1st Coat: Pro Industrial Pro-Cryl Universal Metal Primer, B66-310
    - 2nd Coat: Pro Industrial Zero VOC Acrylic Semi-Gloss, B66 Series.
    - 3rd Coat: Pro Industrial Zero VOC Acrylic Semi-Gloss, B66 Series.
4. CONCRETE MASONRY UNITS
  - A. Painted (Flat Finish/Latex Base)
    - 1st Coat: Loxon Block Surfacers, A24W200
    - 2nd Coat: A-100 Exterior Latex Satin, A82 Series
    - 3rd Coat: A-100 Exterior Latex Satin, A82 Series
5. TRAFFIC AND PARKING LINE MARKING
  - A. Painted (ProMar Traffic Marking Paint)
    - 1st Coat: B29W1-WHITE

#### INTERIOR SURFACES

---

1. WOOD AND PLYWOOD
  - A. Painted (Semi-Gloss Finish/Latex Base)
    - 1st Coat: ProMar 200 Zero VOC Primer, B28W2600
    - 2nd Coat: Pro Industrial Zero VOC Acrylic Semi-Gloss, B66-650 Series
    - 3rd Coat: Pro Industrial Zero VOC Acrylic Semi-Gloss, B66-650 Series
  - B. Stained and Varnished (Clear Finish) Opened Grained Wood
    - 1st Coat: Wood Classics, A49W800 Series
    - 2nd Coat: Wood Classics WB Polyurethane A68
    - 3rd Coat: Wood Classics WB Polyurethane A68
2. CONCRETE BLOCK (CMU)
  - A. Painted (Semi-Gloss Finish/Epoxy Base)
    - 1st Coat: PrepRite® Block Filler, B25W25
    - 2nd Coat: Pro Industrial Pre-Catalyzed Water Based Epoxy, Semi-Gloss, K46W051 VOC
    - 3rd Coat: Pro Industrial Pre-Catalyzed Water Based Epoxy, Semi-Gloss, K46W051 VOC
4. GYPSUM WALLBOARD
  - A. Painted (Eg-Shel Finish/Latex Base)
    - 1st Coat: ProMar 200, Zero VOC Interior Latex Primer, B28W2600
    - 2nd Coat: ProMar 200 Zero VOC Interior Latex Semi-gloss, B20W2650
    - 3rd Coat: ProMar 200 Zero VOC Interior Latex Semi-gloss, B20W2650
  - B. Hallways to receive 2 coats Pro Industrial Pre-Catalyzed Water Based Epoxy, Semi-Gloss K46W051 VOC
5. FERROUS METAL
  - A. Painted (Gloss Finish/Alkyd Base)
    - 1st Coat: Pro Industrial Pro-Cryl Universal Primer, B66-310
    - 2nd Coat: Pro Industrial Zero VOC Waterbased Epoxy Semi-Gloss, B73-300 Series
    - 3rd Coat: Pro Industrial Zero VOC Waterbased Epoxy Semi-Gloss, B73-300 Series

NOTE: Doors and Frames - No brush/roller marks will be accepted.
6. GALVANIZED METAL
  - A. Painted (Semi-Gloss Finish/Alkyd Base)
    - 1st Coat: Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
    - 2nd Coat: Pro Industrial Pre-Catalyzed Water-Based Epoxy Semi-Gloss, K46 Series
    - 3rd Coat: Pro Industrial Pre-Catalyzed Water-Based Epoxy Semi-Gloss, K46 Series

NOTE: Doors and Frames to be sprayed. No brush/roller marks will be accepted.
7. CONCRETE FLOORS (SEALED)
  - A. Painted (Clear Acrylic Floor Finish)
    - 1st Coat: WR Meadows Tiah Acrylic Concrete Sealer, Solvent Based
    - 2nd Coat: WR Meadows Tiah Acrylic Concrete Sealer, Solvent Based

END OF SECTION 09900

## SECTION 10160

### SOLID COLOR REINFORCED COMPOSITE TOILET COMPARTMENTS

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Solid Color Reinforced Composite toilet compartments, floor mounted, overhead braced.
- B. Urinal screens; wall mounted.

##### 1.02 SUBMITTALS

- A. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall, floor, and ceiling supports, door swings.
- B. Product Data: Provide data on panel construction, hardware, and accessories.
- C. Samples: Submit two samples illustrating panel finish, color, and sheen.
- D. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

##### 1.03 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on shop drawings and instructed by the manufacturer.

#### PART 2 PRODUCTS

##### 2.01 ACCEPTABLE MANUFACTURERS

- A. BOBRICK – Sierra Series SCRC Solid Color Toilet Partitions. Color To Be Selected
- B. Substitutions: No Substitutions

##### 2.02 MATERIALS

- A. Sheet: Solid Color Reinforced Composite
- B. Core Construction: Solid Color Reinforced Composite
  - 1. ¾" thick pilasters
  - 2. ¾" thick doors
  - 3. ½" thick panels

##### 2.03 ACCESSORIES

- A. Pilaster Shoe: Formed stainless steel with polished finish, 4 inches high, with adjustable screw jack.
- B. Attachments, Screws, and Bolts: Stainless steel; vandal resistant type, heavy duty extruded aluminum brackets.
- C. Hardware: Chrome plated non-ferrous cast metal:
  - 1. Pivot hinges, gravity type, adjustable for door close positioning.
  - 2. Nylon bearings.
  - 3. Thumb turn door latch with exterior emergency access feature. ADA compliant at handicap stalls.
  - 4. Door strike and keeper with rubber bumper.
  - 5. Coat hook with rubber bumper.
  - 6. Door pull for outswinging doors.
  - 7. **Full length aluminum angle mounting brackets with associated fasteners for panels and pilasters where intersect walls.**

#### PART 3 EXECUTION

##### 3.01 EXAMINATION

- A. Verify correct spacing of and between plumbing fixtures.
- B. Verify correct location of built-in framing, anchorage, and bracing.

##### 3.02 INSTALLATION

- A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.
- B. Maintain 3/8 to 1/2 inch space between wall and panels and between wall and end pilasters.
- C. Attach panel brackets securely to walls using anchor devices.
- D. Attach panels and pilasters to brackets with tamper proof through bolts and nuts. Locate head rail joints at pilaster center lines.
- E. Anchor urinal screen panels to walls with panel brackets.
- F. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster. Conceal floor fastenings with pilaster shoes.

- G. Support pilasters from built-in framing using two adjustable hanging studs providing vertical leveling. Conceal ceiling fastenings with pilaster shoe.
  - H. Equip each door with two hinges, one door latch, one coat hook and bumper; outswinging door with pull.
  - I. Install door strike and keeper with door bumper on each pilaster in alignment with door latch.
  - J. Replace damaged or scratched materials with new materials.
- 3.03 ERECTION TOLERANCES
- A. Maximum Variation From True Position: 1/4 inch.
  - B. Maximum Variation From Plumb: 1/8 inch.
- 3.04 ADJUSTING
- A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.
  - B. Adjust hinges to position doors in open position when unlatched. Return outswinging doors to closed position. Confirm final adjustment and door location with owner in the field.
  - C. Adjust adjacent components for consistency of line or plane.

END OF SECTION 10160



## SECTION 10800

### TOILET AND BATH ACCESSORIES

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Toilet and washroom accessories.
- B. Grab bars.
- C. Attachment hardware.

#### PART 2 PRODUCTS

##### 2.01 MANUFACTURERS

- A. BOBRICK WASHROOM EQUIPMENT INC, or BRADLEY CORPORATION.
- B. Accessory manufacturers as scheduled. BOBRICK and BRADLEY are approved manufacturers provided product is equivalent to scheduled item.
- C. Substitutions: Under provisions of the General Requirements.

##### 2.02 FABRICATION

- A. Weld and grind joints of fabricated components, smooth.
- B. Form exposed surfaces from single sheet of stock, free of joints. Form surfaces flat without distortion. Maintain surfaces without scratches or dents.
- C. Fabricate grab bars of tubing, free of visible joints, return to wall with end attachment flanges. Form bar with 1 1/2 inches clear of wall surface. Knurl grip surfaces.
- D. Shop assemble components and package complete with anchors and fittings.
- E. Provide steel anchor plates, adapters, and anchor components for installation.

##### 2.03 FINISHES

- A. Galvanizing: ASTM A123 to 1.25 oz./sq. yd. Galvanize ferrous metal and fastening devices.
- B. Chrome/Nickel Plating: ASTM B456, satin finish.
- C. Stainless Steel: No. 4 satin luster finish.
- D. Back paint components where contact is made with building finishes to prevent electrolysis.

#### PART 3 EXECUTION

##### 3.01 EXAMINATION

- A. Verify that site conditions are ready to receive work and dimensions are as indicated on shop drawings and instructed by the manufacturer.
- B. Verify exact location of accessories for installation. Coordinate with ADA requirements.

##### 3.02 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation. Provide templates and rough-in measurements as required.

##### 3.03 INSTALLATION

- A. Install accessories in accordance with manufacturer's instructions and Americans with Disabilities Act. Also reference ANSI A117.1.
- B. Install plumb and level, securely and rigidly anchored to substrate.

##### 3.04 SCHEDULE

- A. Soap Dispenser, Owner Provided, Contractor installed. Typical at each Restroom (8 Total)
- B. Grab Bars, GB: Mount top of bars at 34-36" A.F.F Install 2-piece Grab Bar set at all Handicap toilet stalls. BOBRICK B-6806x36 & B-6806x42, **(4 Locations total). Verify mounting height at children's restrooms.**
- C. Toilet Tissue Dispensers, owner provided, contractor installed. Typical at all water closets **(19 total).**
- D. Paper Towel Dispenser: Owner provided, contractor installed Surface Mounted **(12 total);**

END OF SECTION 10800



## SECTION 10850

### BUILDING SPECIALTIES

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Building specialties shall be furnished and installed as shown and herein specified. Installation shall be in accordance with the respective manufacturer's instructions. Certain manufacturer's products have been selected as a basic standard, and reference to these products has been made. Other manufacturers' products of equal capacities and design characteristics may be used, if approved by the Architect prior to the Bidding. The Contractor shall submit for approval shop drawings or standard cuts and illustrations or a combination thereof showing all items he proposes to use.

##### 1.01 CAST METAL LETTERS

- A. Manufacturer: Gemimi Incorporated, or equal. 3/8" thick cast aluminum letters with baked enamel finish (full range of color selection) and 3" metal threaded posts on back side of lettering for mounting into Tile. This signage is NOT to be included in the Signage Allowance per Section 01019. All costs associated with installation of this signage shall be included in the Contractor's **Base Bid**.
  - 1. 6" tall letters to read: "**BOYS**" Font to be Aerial or Aerial Narrow as required for fit.. Flush mounted to wall. **Two (2) sets.**
  - 2. 6" tall letters to read: "**GIRLS**" Font to be Aerial or Aerial Narrow as required for fit.. Flush mounted to wall. **Two (2) sets.**

##### 1.02 INTERIOR BUILDING SIGNAGE

- A. Product: Equivalent to Best Signage Systems, Graphic Blast MP. Ease all front edges. Signage to be 1/4" thick clear acrylic with a painted second surface. Raised font and pictogram/character color to be selected from full line. Braille to be type-2 domed at all signs. Font style to be Helvetica Bold. Approximate signage dimension 6" x 8" – submit samples for approval and color selection.
- B. Locate at renovated restrooms (4 total)
  - 1. "Boys Restroom" (2 locations)
  - 2. "Girls Restroom" (2 locations)

END OF SECTION 10850



SECTION 220501  
PLUMBING DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Plumbing demolition.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify field measurements, pipe, and equipment arrangements for new work as shown on Drawings.
- B. Prior to submitting bid, visit site and become familiar with scope of demolition work required to accommodate new work.
- C. Refer to Architectural Drawings for additional clarification of scope of demolition and new work.
- D. Verify that abandoned equipment and associated plumbing installation serve only abandoned facilities.
- E. Demolition drawings are based on record drawings and casual field observation .
- F. Report discrepancies to Architect before disturbing existing installation.
- G. Beginning of demolition means installer accepts existing conditions.

3.2 PREPARATION

- A. Remove all piping, fixtures, and other plumbing installation from entire building.
- B. Coordinate utility service outages with respective utility company.
- C. Provide temporary connections as required to maintain existing systems in service during construction.
- D. Restore services to items not being removed, but affected by the demolition work required for new construction.

3.3 DEMOLITION OF EXISTING PLUMBING WORK

- A. Remove, relocate, and extend existing installations to accommodate new construction.
- B. Remove all equipment, controls, piping, fixtures, and other plumbing installation from the project areas as required for new construction. Piping to be removed to source of supply.
- C. Repair adjacent construction and finishes damaged during demolition and extension work.
- D. Maintain access to existing installations that remain active. Modify installation or provide access panels as appropriate.
- E. Extend existing installations using materials and methods compatible with existing installation or as specified.

3.4 CLEANING AND REPAIR

- A. Clean and repair existing materials and equipment that remain or that are to be reused.

END OF SECTION 220501



SECTION 220553  
IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Nameplates.
- B. Tags.
- C. Pipe Markers.

1.2 REFERENCE STANDARDS

- A. ASME A13.1 - Scheme for the Identification of Piping Systems; The American Society of Mechanical Engineers; 2007.

1.3 SUBMITTALS

- A. See Division 1 Section - Administrative Requirements, for submittal procedures.
- B. List: Submit list of wording, symbols, letter size, and color coding for mechanical identification.
- C. Chart and Schedule: Submit valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.
- D. Product Data: Provide manufacturers catalog literature for each product required.
- E. Project Record Documents: Record actual locations of tagged valves.

PART 2 PRODUCTS

2.1 NAMEPLATES

- A. Description: Laminated three-layer plastic with engraved letters.
  - 1. Letter Color: White.
  - 2. Letter Height: 1/4 inch.
  - 3. Background Color: Black.

2.2 TAGS

- A. Plastic Tags: Laminated three-layer plastic with engraved black letters on light contrasting background color. Tag size minimum 1-1/2 inch diameter.
- B. Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch diameter with smooth edges.
- C. Chart: Typewritten letter size list in anodized aluminum frame.

2.3 PIPE MARKERS

- A. Comply with ASME A13.1.
- B. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install plastic nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.
- B. Install tags with corrosion resistant chain.
- C. Install plastic pipe markers in accordance with manufacturer's instructions.
- D. Install plastic tape pipe markers complete around pipe in accordance with manufacturer's instructions.
- E. Identify equipment with plastic nameplates. Small devices, such as in-line pumps, may be identified with tags.
- F. Identify control panels and major control components outside panels with plastic nameplates.
- G. Identify valves in main and branch piping with tags.

- H. Identify piping, concealed or exposed, with plastic pipe markers. Use tags on piping 3/4 inch diameter and smaller. Identify service, flow direction, and pressure. Install in clear view and align with axis of piping. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and Tee, at each side of penetration of structure or enclosure, and at each obstruction.

END OF SECTION 220553



SECTION 220719  
PLUMBING PIPING INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Piping insulation.
- B. Jackets and accessories.

1.2 REFERENCE STANDARDS

- A. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus; 2013.
- B. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement; 2007 (Reapproved 2013).
- C. ASTM C449 - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement; 2007 (Reapproved 2013).
- D. ASTM C534/C534M - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form; 2014.
- E. ASTM C547 - Standard Specification for Mineral Fiber Pipe Insulation; 2015.
- F. ASTM C795 - Standard Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel; 2008 (Reapproved 2013).
- G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- H. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2014.
- I. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Current Edition, Including All Revisions.

1.3 SUBMITTALS

- A. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service
- B. Manufacturer's Instructions: Indicate installation procedures that ensure acceptable workmanship and installation standards will be achieved.

PART 2 PRODUCTS

2.1 REQUIREMENTS FOR ALL PRODUCTS OF THIS SECTION

- A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84 or UL 723.

2.2 GLASS FIBER

- A. Manufacturers:
  - 1. Knauf Insulation: [www.knaufusa.com](http://www.knaufusa.com).
  - 2. Johns Manville Corporation: [www.jm.com](http://www.jm.com).
  - 3. Owens Corning Corp: [www.owenscorning.com](http://www.owenscorning.com).
  - 4. CertainTeed Corporation: [www.certainteed.com](http://www.certainteed.com).
- B. Insulation: ASTM C547 and ASTM C795; rigid molded, noncombustible.
  - 1. 'K' value: ASTM C177, 0.24 at 75 degrees F.
  - 2. Maximum service temperature: 250 degrees F.
  - 3. Maximum moisture absorption: 0.2 percent by volume.
- C. Insulation: ASTM C547 and ASTM C795; semi-rigid, noncombustible, end grain adhered to jacket.
  - 1. 'K' value: ASTM C177, 0.24 at 75 degrees F.
  - 2. Maximum service temperature: 250 degrees F.
  - 3. Maximum moisture absorption: 0.2 percent by volume.

- D. Vapor Barrier Jacket: White Kraft paper with glass fiber yarn, bonded to aluminized film; moisture vapor transmission when tested in accordance with ASTM E96/E96M of 0.02 perm-inches.
- E. Vapor Barrier Lap Adhesive:
  - 1. Compatible with insulation.
- F. Insulating Cement/Mastic:
  - 1. ASTM C195; hydraulic setting on mineral wool.
- G. Fibrous Glass Fabric:
  - 1. Cloth: Untreated; 9 oz/sq yd weight.
  - 2. Blanket: 1.0 lb/cu ft density.
  - 3. Weave: 5x5.
- H. Indoor Vapor Barrier Finish:
  - 1. Cloth: Untreated; 9 oz/sq yd weight.
  - 2. Vinyl emulsion type acrylic, compatible with insulation, black color.
- I. Insulating Cement:
  - 1. ASTM C449/C449M.

### 2.3 FLEXIBLE ELASTOMERIC CELLULAR INSULATION

- A. Manufacturer:
  - 1. Armacell International: [www.armacell.com/#sle](http://www.armacell.com/#sle).
  - 2. K-Flex USA: [www.kflexusa.com](http://www.kflexusa.com).
- B. Insulation: Preformed flexible elastomeric cellular rubber insulation complying with ASTM C534 Grade 1; use molded tubular material wherever possible.
  - 1. Minimum Service Temperature: -40 degrees F.
  - 2. Maximum Service Temperature: 220 degrees F.
  - 3. Connection: Waterproof vapor barrier adhesive.
- C. Elastomeric Foam Adhesive: Air dried, contact adhesive, compatible with insulation.

### 2.4 JACKETS

- A. PVC Plastic.
  - 1. Jacket: One piece molded type fitting covers and sheet material, off-white color.
    - a. Minimum Service Temperature: 0 degrees F.
    - b. Maximum Service Temperature: 150 degrees F.
    - c. Moisture Vapor Permeability: 0.002 perm inch, maximum, when tested in accordance with ASTM E96/E96M.
    - d. Thickness: 10 mil.
    - e. Connections: Brush on welding adhesive.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that piping has been tested before applying insulation materials.
- B. Verify that surfaces are clean and dry, with foreign material removed.

### 3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Exposed Piping: Locate insulation and cover seams in least visible locations.
- C. Insulated pipes conveying fluids below ambient temperature: Insulate entire system including fittings, valves, unions, flanges, strainers, flexible connections, pump bodies, and expansion joints.
- D. Glass fiber insulated pipes conveying fluids below ambient temperature:
  - 1. Provide vapor barrier jackets, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive.

2. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor barrier adhesive or PVC fitting covers.
- E. Glass fiber insulated pipes conveying fluids above ambient temperature:
  1. Provide standard jackets, with or without vapor barrier, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive.
  2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.
- F. Inserts and Shields:
  1. Application: Piping 2-1/2 inches diameter or larger.
  2. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
  3. Insert location: Between support shield and piping and under the finish jacket.
- G. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions. At fire separations, refer to Firestopping Section.
- H. Exterior Applications: Provide vapor barrier jacket. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Provide PVC jacket.

### 3.3 SCHEDULES

- A. Domestic Hot and Recirculated Hot Water:
  1. Glass Fiber Insulation:
    - a. Pipe Size Range: 1/2 through 1-1/4 inch.
    - b. Thickness: 1 inch.
  2. Glass Fiber Insulation:
    - a. Pipe Size Range: Above 1-1/4 inch
    - b. Thickness: 1-1/2 inch
- B. Domestic Cold Water:
  1. Glass Fiber Insulation:
    - a. Pipe Size Range: 1/2 through 1-1/4 inch.
    - b. Thickness: 1/2 inch.
  2. Glass Fiber Insulation:
    - a. Pipe Size Range: Above 1-1/4 inch
    - b. Thickness: 1 inch

END OF SECTION 220719



SECTION 221005  
PLUMBING PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Pipe, pipe fittings, valves, and connections for piping systems.
  - 1. Sanitary sewer.
  - 2. Domestic water.
  - 3. Flanges, unions, and couplings.
  - 4. Pipe hangers and supports.
  - 5. Valves.
  - 6. Flow controls.
  - 7. Check.
  - 8. Water pressure reducing valves.
  - 9. Relief valves.
  - 10. Sleeves
  - 11. Sleeve seals
  - 12. Grout
  - 13. Escutcheons

1.2 RELATED REQUIREMENTS

- A. Section - Firestopping.
- B. Section 220553 - Identification for Plumbing Piping and Equipment.
- C. Section 220719 - Plumbing Piping Insulation.

1.3 REFERENCE STANDARDS

- A. ANSI Z21.22 - American National Standard for Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems; 1999, and addenda A&B (R2004).
- B. ANSI Z223.1 - National Fuel Gas Code; 2015.
- C. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings; 2012.
- D. ASME B16.22 - Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings; 2013.
- E. ASME B31.9 - Building Services Piping; 2014.
- F. ASSE 1003 - Performance Requirements for Water Pressure Reducing Valves for Domestic Water Distribution Systems; 2009.
- G. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.
- H. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings; 2015.
- I. ASTM B32 - Standard Specification for Solder Metal; 2008 (Reapproved 2014).
- J. ASTM B42 - Standard Specification for Seamless Copper Pipe, Standard Sizes; 2015a.
- K. ASTM B88 - Standard Specification for Seamless Copper Water Tube; 2014.
- L. ASTM B813 - Standard Specification for Liquid and Paste Fluxes for Soldering of Copper and Copper Alloy Tube; 2010.
- M. ASTM B828 - Standard Practice for Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings; 2002 (Reapproved 2010).
- N. ASTM D2564 - Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems; 2012.
- O. ASTM D2665 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings; 2014.
- P. ASTM D2729 - Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2011.

- Q. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings; 1996 (Reapproved 2010).
- R. ASTM F876 - Standard Specification for Crosslinked Polyethylene (PEX) Tubing; 2013a.
- S. ASTM F877 - Standard Specification for Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems; 2011.
- T. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers; 1992 (Reapproved 2008).
- U. ASTM F 2389-06 - Standard Specification for Pressure-rated Polypropylene (PP) Piping Systems
- V. CSA B137.11 - Polypropylene (PP-R) Pipe and Fittings for Pressure Applications
- W. NSF/ANSI 14 - Plastic Piping System Components and Related Materials
- X. NSF/ANSI 61 - Drinking Water Systems Components - Health Effects
- Y. AWWA C550 - Protective Interior Coatings for Valves and Hydrants; 2013.
- Z. AWWA C651 - Disinfecting Water Mains; 2005.
- AA. CISPI 301 - Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste and Vent Piping Applications; 2009.
- AB. CISPI 310 - Specification for Coupling for Use in Connection with Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications; 2011.
- AC. ICC-ES AC01 - Acceptance Criteria for Expansion Anchors in Masonry Elements; 2012.
- AD. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation; 2009.
- AE. MSS SP-67 - Butterfly Valves; 2011.
- AF. MSS SP-70 - Cast Iron Gate Valves, Flanged and Threaded Ends; 2011.
- AG. MSS SP-71 - Cast Iron Swing Check Valves, Flanged and Threaded Ends; 2011.
- AH. MSS SP-80 - Bronze Gate, Globe, Angle and Check Valves; 2013.
- AI. MSS SP-110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends; 2010.
- AJ. NSF 372 - Drinking Water System Components - Lead Content; 2011.
- AK. PPI TR-4 - PPI Listing of Hydrostatic Design Basis (HDB), Hydrostatic Design Stress (HDS), Strength Design Basis (SDB), Pressure Design Basis (PDB), and Minimum Required Strength (MRS) Ratings For Thermoplastic Piping Materials or Pipe; 2013.

#### 1.4 SUBMITTALS

- A. See Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on pipe materials, pipe fittings, valves, and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.
- C. Project Record Documents: Record actual routing of piping. Record actual locations of valves.

#### 1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with City of Salina standards.
- B. Where joining systems specific to a piping manufacturer are used, personnel shall receive factory authorized training prior to installation, and submit evidence of such training for review.
- C. Valves: Manufacturer's name and pressure rating marked on valve body.
- D. Welding Materials and Procedures: Conform to ASME BPVC-IX and applicable state labor regulations.
- E. Welder Qualifications: Certified in accordance with ASME BPVC-IX.
- F. Identify pipe with marking including size, ASTM material classification, ASTM specification, potable water certification, water pressure rating.

## 1.6 REGULATORY REQUIREMENTS

- A. Perform Work in accordance with State of Kansas, plumbing code.
- B. Conform to applicable code for installation of backflow prevention devices.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.
- B. Provide temporary protective coating on cast iron and steel valves.
- C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
- D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

## 1.8 FIELD CONDITIONS

- A. Do not install underground piping when bedding is wet or frozen.

## PART 2 PRODUCTS

### 2.1 GENERAL REQUIREMENTS

- A. Potable Water Supply Systems: Provide piping, pipe fittings, and solder and flux (if used), that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.
- B. Reference PART 3 EXECUTION for product applications. Listing of products herein does not imply acceptance of use in all sizes or locations.

### 2.2 SANITARY SEWER PIPING, BURIED WITHIN 5 FEET OF BUILDING

- A. PVC Pipe: ASTM D2665 or ASTM D3034.
  - 1. Fittings: PVC.
  - 2. Joints: Solvent welded, with ASTM D2564 solvent cement.

### 2.3 SANITARY SEWER PIPING, ABOVE GRADE

- A. Cast Iron Pipe: CISPI 301, hubless, service weight.
  - 1. Fittings: Cast iron.
  - 2. Joints: CISPI 310, neoprene gaskets and stainless steel clamp-and-shield assemblies.
- B. PVC Pipe: ASTM D2729.
  - 1. Fittings: PVC.
  - 2. Joints: Solvent welded, with ASTM D2564 solvent cement.

### 2.4 WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING

- A. Copper Pipe: ASTM B42, hard drawn.
  - 1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22 wrought copper and bronze.
  - 2. Joints: ASTM B 32, alloy Sn95 solder.
- B. PE Pipe: ASTM D2239, or ASTM D2447 Schedule 40.
  - 1. Fittings: ASTM D2609, PE.
  - 2. Joints: Mechanical with stainless steel clamp.

### 2.5 WATER PIPING, ABOVE GRADE

- A. Copper Tube: ASTM B88 (ASTM B88M), Type L (B), Drawn (H).
  - 1. Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze.
  - 2. Joints: ASTM B32, alloy Sn95 solder.
- B. Cross-Linked Polyethylene (PEX) Pipe: ASTM F876 or ASTM F877.
  - 1. Manufacturers:
    - a. Uponor, Inc: [www.uponorengineering.com/#sle](http://www.uponorengineering.com/#sle).
    - b. Viega LLC: [www.viega.com/#sle](http://www.viega.com/#sle).
  - 2. PPI TR-4 Pressure Design Basis:
    - a. 100 psig at maximum 180 degrees F.
  - 3. Fittings: Brass and copper.

- C. Polypropylene Pipe: Pipe shall be manufactured from a PP-R or PP-RCT resin meeting the short-term properties and long-term strength requirements of ASTM F 2389. The pipe shall contain no rework or recycled materials except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. All pipe shall be made in a multi-layer extrusion process. Domestic hot water shall contain a fiber layer (faser) to restrict thermal expansion. All pipe shall comply with the rated pressure requirements of ASTM F 2389. All pipe shall be certified by NSF International as complying with NSF 14, NSF 61, and ASTM F 2389 or CSA B137.11.
1. Pipe shall be Niron Clima Pipe as manufactured by Nupi Americas or equivalent approved by Engineer.
  2. Fittings shall be manufactured from a PP-R or PP-RCT resin meeting the short-term properties and long-term strength requirements of ASTM F 2389. The fittings shall contain no rework or recycled materials except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. All fittings shall be certified by NSF International as complying with NSF 14, NSF 61, and ASTM F 2389 or CSA B137.11.
  3. Valves shall be manufactured from resin meeting the short-term properties and long-term strength requirements of ASTM F 2389. The valves shall contain no rework or recycled materials except that generated in the manufacturer's own plant from resin of the same specification from the same raw material.
  4. Manufacturer shall warrant pipe and fittings for 30 years to be free of defects in materials or workmanship. Warrantee shall cover labor and material costs of repairing and/or replacing defective materials and repairing any incidental damage caused by failure of the piping system do to defects in materials or workmanship.

## 2.6 FLANGES, UNIONS, AND COUPLINGS

- A. Unions for Pipe Sizes 3 Inches and Under:
1. Ferrous pipe: Class 150 malleable iron threaded unions.
  2. Copper tube and pipe: Class 150 bronze unions with soldered joints.
- B. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

## 2.7 PIPE HANGERS AND SUPPORTS

- A. Provide hangers and supports that comply with MSS SP-58.
1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
  2. Overhead Supports: Individual steel rod hangers attached to structure or to trapeze hangers.
  3. Trapeze Hangers: Welded steel channel frames attached to structure.
  4. Vertical Pipe Support: Steel riser clamp.
- B. Plumbing Piping - Drain, Waste, and Vent:
1. Conform to ASME B31.9.
  2. Hangers for Pipe Sizes 1/2 Inch to 1-1/2 Inches: Carbon steel, adjustable swivel, split ring.
  3. Hangers for Pipe Sizes 2 Inches and Over: Carbon steel, adjustable, clevis.
  4. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
  5. Wall Support for Pipe Sizes to 3 Inches: Cast iron hook.
  6. Wall Support for Pipe Sizes 4 Inches and Over: Welded steel bracket and wrought steel clamp.
  7. Vertical Support: Steel riser clamp.
- C. Plumbing Piping - Water:
1. Conform to ASME B31.9.
  2. Hangers for Pipe Sizes 1/2 Inch to 1-1/2 Inches: Malleable iron, adjustable swivel, split ring.
  3. Hangers for Cold Pipe Sizes 2 Inches and Over: Carbon steel, adjustable, clevis.
  4. Hangers for Hot Pipe Sizes 2 Inches to 4 Inches: Carbon steel, adjustable, clevis.
  5. Multiple or Trapeze Hangers: Steel channels with welded supports or spacers and hanger rods.
  6. Multiple or Trapeze Hangers for Hot Pipe Sizes 6 Inches and Over: Steel channels with welded supports or spacers and hanger rods, cast iron roll.



7. Wall Support for Pipe Sizes to 3 Inches: Cast iron hook.
  8. Wall Support for Pipe Sizes 4 Inches and Over: Welded steel bracket and wrought steel clamp.
  9. Vertical Support: Steel riser clamp.
- D. Hanger Fasteners: Attach hangers to structure using appropriate fasteners, as follows:
1. Masonry Wedge Expansion Anchors: Complying with ICC-ES AC01.
  2. Other Types: As required.

## 2.8 GATE VALVES

- A. Manufacturers:
1. Tyco Flow Control: [www.tycoflowcontrol.com](http://www.tycoflowcontrol.com).
  2. Conbraco Industries: [www.conbraco.com](http://www.conbraco.com).
  3. Nibco, Inc: [www.nibco.com](http://www.nibco.com).
  4. Milwaukee Valve Company: [www.milwaukeevalve.com](http://www.milwaukeevalve.com).
  5. Substitutions: See Section 016000 - Product Requirements.
- B. Up To and Including 3 Inches:
1. 1, Class 125, bronze body, bronze trim, rising stem, handwheel, inside screw, solid wedge disc, solder ends.
- C. 2 Inches and Larger:
1. 1, Class 125, iron body, bronze trim, outside screw and yoke, handwheel, solid wedge disc, flanged ends. Provide chain-wheel operators for valves 6 inches and larger mounted over 8 feet above floor.

## 2.9 BALL VALVES

- A. Manufacturers:
1. Tyco Flow Control: [www.tycoflowcontrol.com](http://www.tycoflowcontrol.com).
  2. Conbraco Industries: [www.conbraco.com](http://www.conbraco.com).
  3. Nibco, Inc: [www.nibco.com](http://www.nibco.com).
  4. Milwaukee Valve Company: [www.milwaukeevalve.com](http://www.milwaukeevalve.com).
  5. Substitutions: See Section 016000 - Product Requirements.
- B. Construction, 4 Inches and Smaller: MSS SP-110, Class 150, 400 psi CWP, bronze, two piece body, chrome plated brass ball, regular port, teflon seats and stuffing box ring, blow-out proof stem, lever handle with balancing stops, solder ends with union.

## 2.10 BUTTERFLY VALVES

- A. Manufacturers:
1. Tyco Flow Control: [www.tycoflowcontrol.com](http://www.tycoflowcontrol.com).
  2. Hammond Valve: [www.hammondvalve.com](http://www.hammondvalve.com).
  3. Crane Co.: [www.cranevalve.com](http://www.cranevalve.com).
  4. Milwaukee Valve Company: [www.milwaukeevalve.com](http://www.milwaukeevalve.com).
  5. Substitutions: See Section 016000 - Product Requirements.
- B. Construction 1-1/2 Inches and Larger: MSS SP-67, 200 psi CWP, cast or ductile iron body, nickel-plated ductile iron disc, resilient replaceable EPDM seat, wafer ends, extended neck, 10 position lever handle.
- C. Provide gear operators for valves 8 inches and larger, and chain-wheel operators for valves mounted over 8 feet above floor.

## 2.11 FLOW CONTROLS

- A. Manufacturers:
1. Tyco Flow Control: [www.tycoflowcontrol.com](http://www.tycoflowcontrol.com).
  2. ITT Bell & Gossett: [www.bellgossett.com](http://www.bellgossett.com).
  3. Griswold Controls: [www.griswoldcontrols.com](http://www.griswoldcontrols.com).
  4. Taco, Inc: [www.taco-hvac.com](http://www.taco-hvac.com).
- B. Construction: Class 125, Brass or bronze body with union on inlet and outlet, temperature and pressure test plug on inlet and outlet, blowdown/backflush drain.

- C. Calibration: Control flow within 5 percent of selected rating, over operating pressure range of 10 times minimum pressure required for control, maximum minimum pressure 3.5 psi.

## 2.12 SWING CHECK VALVES

- A. Manufacturers:
  - 1. Tyco Flow Control: [www.tycoflowcontrol.com](http://www.tycoflowcontrol.com).
  - 2. Hammond Valve: [www.hammondvalve.com](http://www.hammondvalve.com).
  - 3. Nibco, Inc: [www.nibco.com](http://www.nibco.com).
  - 4. Milwaukee Valve Company: [www.milwaukeevalve.com](http://www.milwaukeevalve.com).
  - 5. Substitutions: See Section 016000 - Product Requirements.
- B. Up to 2 Inches:
  - 1. 1, Class 125, bronze body and cap, bronze swing disc with rubber seat, solder ends.
- C. Over 2 Inches:
  - 1. 1, Class 125, iron body, bronze swing disc, renewable disc seal and seat, flanged or grooved ends.

## 2.13 SPRING LOADED CHECK VALVES

- A. Manufacturers:
  - 1. Tyco Flow Control: [www.tycoflowcontrol.com](http://www.tycoflowcontrol.com).
  - 2. Hammond Valve: [www.hammondvalve.com](http://www.hammondvalve.com).
  - 3. Crane Co.: [www.cranevalve.com](http://www.cranevalve.com).
  - 4. Milwaukee Valve Company: [www.milwaukeevalve.com](http://www.milwaukeevalve.com).
- B. Class 125, iron body, bronze trim, stainless steel springs, bronze disc, Buna N seals, wafer style ends.

## 2.14 WATER PRESSURE REDUCING VALVES

- A. Manufacturers:
  - 1. Amtrol Inc: [www.amtrol.com](http://www.amtrol.com).
  - 2. Cla-Val Co: [www.cla-val.com](http://www.cla-val.com).
  - 3. Watts Regulator Company: [www.wattsregulator.com](http://www.wattsregulator.com).
- B. Up to 2 Inches:
  - 1. ASSE 1003, bronze body, stainless steel, and thermoplastic internal parts, fabric reinforced diaphragm, strainer, threaded single union ends.
- C. Over 2 Inches:
  - 1. ASSE 1003, cast iron body with interior lining complying with AWWA C550, bronze fitted, elastomeric diaphragm and seat disc, flanged.

## 2.15 RELIEF VALVES

- A. Temperature and Pressure Relief:
  - 1. Manufacturers:
    - a. Cla-Val Co: [www.cla-val.com](http://www.cla-val.com).
    - b. Henry Technologies: [www.henrytech.com](http://www.henrytech.com).
    - c. Watts Regulator Company: [www.wattsregulator.com](http://www.wattsregulator.com).
  - 2. AGA Z21.22 certified, bronze body, teflon seat, stainless steel stem and springs, automatic, direct pressure actuated, temperature relief maximum 210 degrees F, capacity ASME (BPV IV) certified and labelled.

## 2.16 SLEEVES

- A. Galvanized-Steel-Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, with plain ends.

## 2.17 SLEEVE-SEAL SYSTEMS

- 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:

- B. Description: Modular sealing-element unit, designed for field assembly, for filling annular space between piping and sleeve.
  - 1. Sealing Elements: EPDM-rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
  - 2. Pressure Plates: Carbon steel.
  - 3. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating, of length required to secure pressure plates to sealing elements.

## 2.18 GROUT

- A. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
- B. Characteristics: Nonshrink; recommended for interior and exterior applications.
- C. Design Mix: 5000-psi, 28-day compressive strength.
- D. Packaging: Premixed and factory packaged.

## 2.19 ESCUTCHEONS

- A. One-Piece, Cast-Brass Type: With polished, chrome-plated finish and setscrew fastener.
- B. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped brass with chrome-plated finish and spring-clip fasteners.
- C. One-Piece, Stamped-Steel Type: With chrome-plated finish and spring-clip fasteners.
- D. Split-Casting Brass Type: With polished, chrome-plated finish and with concealed hinge and setscrew.
- E. Split-Plate, Stamped-Steel Type: With chrome-plated finish, exposed-rivet hinge, and spring-clip fasteners.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that excavations are to required grade, dry, and not over-excavated.

### 3.2 PREPARATION

- A. Ream pipe and tube ends. Remove burrs.
- B. Remove scale and dirt, on inside and outside, before assembly.
- C. Prepare piping connections to equipment with flanges or unions.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
- C. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.
- D. Install piping to maintain headroom, conserve space, and not interfere with use of space.
- E. Group piping whenever practical at common elevations.
- F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- G. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings.
- H. Provide access where valves and fittings are not exposed.
- I. Install vent piping penetrating roofed areas to maintain integrity of roof assembly.
- J. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- K. Provide support for utility meters in accordance with requirements of utility companies.
- L. TRENCHING

1. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
  2. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
  3. Do not interfere with 45 degree bearing splay of foundations.
  4. Cut trenches wide enough to allow inspection of installed utilities.
  5. Hand trim excavations. Remove loose matter.
  6. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.
  7. Remove excavated material that is unsuitable for re-use from site.
  8. Remove excess excavated material from site.
- M. BACKFILLING
1. Fill up to subgrade elevations unless otherwise indicated.
  2. Employ a placement method that does not disturb or damage other work.
  3. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
  4. Maintain optimum moisture content of fill materials to attain required compaction density.
  5. Sand Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.
- N. Install bell and spigot pipe with bell end upstream.
- O. Install valves with stems upright or horizontal, not inverted.
- P. Pipe vents from gas pressure reducing valves to outdoors and terminate in weather proof hood.
- Q. Install water piping to ASME B31.9.
- R. Copper Pipe and Tube: Make soldered joints in accordance with ASTM B828, using specified solder, and flux meeting ASTM B813; in potable water systems use flux also complying with NSF 61 and NSF 372.
- S. PVC Pipe: Make solvent-welded joints in accordance with ASTM D2855.
- T. Do not use PVC piping in return air plenums.
- U. PP Piping: Install fittings and joints using socket-fusion, electrofusion, or butt-fusion as applicable for the fitting type. All fusion-weld joints shall be made in accordance with the pipe and fitting manufacturer's specifications and product standards.
- V. The use of PEX piping shall be limited to 1" and smaller unless noted otherwise.
- W. SLEEVE INSTALLATION
1. Install sleeves for piping passing through penetrations in floors, partitions, roofs, and walls.
  2. For sleeves that will have sleeve-seal system installed, select sleeves of size large enough to provide 1-inch annular clear space between piping and concrete slabs and walls.
    - a. Sleeves are not required for core-drilled holes.
  3. Install sleeves in concrete floors, concrete roof slabs, and concrete walls as new slabs and walls are constructed.
    - a. Permanent sleeves are not required for holes in slabs formed by molded-PE or -PP sleeves.
    - b. Cut sleeves to length for mounting flush with both surfaces.
      - 1) Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches above finished floor level.
    - c. Using grout, seal the space outside of sleeves in slabs and walls without sleeve-seal system.
  4. Install sleeves for pipes passing through interior partitions.
    - a. Cut sleeves to length for mounting flush with both surfaces.
    - b. Install sleeves that are large enough to provide 1/4-inch annular clear space between sleeve and pipe or pipe insulation.
    - c. Seal annular space between sleeve and piping or piping insulation; use joint sealants appropriate for size, depth, and location of joint. Comply with requirements for sealants specified in other sections.

5. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Comply with requirements for firestopping specified in other sections.

#### X. SLEEVE-SEAL-SYSTEM INSTALLATION

1. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at service piping entries into building.
2. Select type, size, and number of sealing elements required for piping material and size and for sleeve ID or hole size. Position piping in center of sleeve. Center piping in penetration, assemble sleeve-seal system components, and install in annular space between piping and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make a watertight seal.

#### Y. ESCUTCHEONS

1. Install escutcheons for piping penetrations of walls, ceilings, and finished floors.
2. Install escutcheons with ID to closely fit around pipe, tube, and insulation of insulated piping and with OD that completely covers opening.
  - a. Escutcheons Schedule:
    - 1) Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep-pattern type.
    - 2) Insulated Piping: One-piece, stamped-steel type or split-plate, stamped-steel type with exposed-rivet hinge.
    - 3) Bare Piping at Wall and Floor Penetrations in Finished Spaces: One-piece, cast-brass or split-casting brass type with polished, chrome-plated finish.
    - 4) Bare Piping at Ceiling Penetrations in Finished Spaces: One-piece, cast-brass or split-casting brass type with polished, chrome-plated finish.
    - 5) Bare Piping in Unfinished Service Spaces: One-piece, stamped-steel type or split-plate, stamped-steel type with exposed-rivet hinge.
    - 6) Bare Piping in Equipment Rooms: One-piece, stamped-steel type or split-plate, stamped-steel type with exposed-rivet hinge.

#### Z. Inserts:

1. Provide inserts for placement in concrete formwork.
2. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
3. Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches.
4. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.

#### AA. Pipe Hangers and Supports:

1. Install in accordance with ASME B31.9.
2. Support horizontal piping as scheduled.
3. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
4. Place hangers within 12 inches of each horizontal elbow.
5. Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
6. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
7. Provide copper plated hangers and supports for copper piping.
8. Provide hangers adjacent to motor driven equipment with vibration isolation; refer to Section 220548.
9. Support cast iron drainage piping at every joint.

### 3.4 APPLICATION

- A. Install unions downstream of valves and at equipment or apparatus connections.
- B. Install brass male adapters each side of valves in copper piped system. Solder adapters to pipe.
- C. Install gate or ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.
- D. Provide spring loaded check valves on discharge of water pumps.

- E. Provide flow controls in water recirculating systems where indicated.

### 3.5 TOLERANCES

- A. Drainage Piping: Establish invert elevations within 1/2 inch vertically of location indicated and slope to drain at minimum of 1/8 inch per foot slope.

### 3.6 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

- A. Prior to starting work, verify system is complete, flushed and clean.
- B. Ensure Ph of water to be treated is between 7.4 and 7.6 by adding alkali (caustic soda or soda ash) or acid (hydrochloric).
- C. Inject disinfectant, free chlorine in liquid, powder, tablet or gas form, throughout system to obtain 50 to 80 mg/L residual.
- D. Bleed water from outlets to ensure distribution and test for disinfectant residual at minimum 15 percent of outlets.
- E. Maintain disinfectant in system for 24 hours.
- F. If final disinfectant residual tests less than 25 mg/L, repeat treatment.
- G. Flush disinfectant from system until residual equal to that of incoming water or 1.0 mg/L.
- H. Take samples no sooner than 24 hours after flushing, from 10 percent of outlets and from water entry, and analyze in accordance with AWWA C651.

### 3.7 SCHEDULES

- A. Pipe Hanger Spacing:
  - 1. Metal Piping:
    - a. Pipe size: 1/2 inches to 1-1/4 inches:
      - 1) Maximum hanger spacing: 6.5 ft.
      - 2) Hanger rod diameter: 3/8 inches.
    - b. Pipe size: 1-1/2 inches to 2 inches:
      - 1) Maximum hanger spacing: 10 ft.
      - 2) Hanger rod diameter: 3/8 inch.
    - c. Pipe size: 2-1/2 inches to 3 inches:
      - 1) Maximum hanger spacing: 10 ft.
      - 2) Hanger rod diameter: 1/2 inch.
    - d. Pipe size: 4 inches to 6 inches:
      - 1) Maximum hanger spacing: 10 ft.
      - 2) Hanger rod diameter: 5/8 inch.
  - 2. Plastic Piping:
    - a. All Sizes:
      - 1) Maximum hanger spacing: 6 ft.
      - 2) Hanger rod diameter: 3/8 inch.
- B. Pipe Materials:
  - 1. Domestic Water:
    - a. Basis of design is copper. If PEX is used, sizes shall be adjusted to provide equivalent hydraulic diameter.
    - b. Stubouts to fixtures shall be copper.
    - c. Pipe sizes 1/2" to 1": Any material listed for use in Part 2.
    - d. Pipe sizes 1-1/4" and larger: Any material listed for use in Part 2, except PEX is not acceptable.
  - 2. Sanitary Drain and Vent: Any material listed for use in Part 2.
    - a. PVC shall not be used in return air plenums.

END OF SECTION 221005

SECTION 221006  
PLUMBING PIPING SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cleanouts.
- B. Water hammer arrestors.
- C. Thermostatic mixing valves.

1.2 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ASSE 1011 - Hose Connection Vacuum Breakers; 2004.
- C. PDI-WH 201 - Water Hammer Arresters; 2010.

1.3 SUBMITTALS

- A. Product Data: Provide component sizes, rough-in requirements, service sizes, and finishes.
- B. Certificates: Certify that grease interceptors meet or exceed specified requirements.

PART 2 PRODUCTS

2.1 CLEANOUTS

- A. Manufacturers:
  - 1. Jay R. Smith Manufacturing Company: [www.jayrsmith.com/#sle](http://www.jayrsmith.com/#sle).
  - 2. Josam Company: [www.josam.com/#sle](http://www.josam.com/#sle).
  - 3. Zurn Industries, Inc: [www.zurn.com/#sle](http://www.zurn.com/#sle).
  - 4. Sioux Chief Manufacturing.
- B. Cleanouts at Exterior Surfaced Areas:
  - 1. Round cast nickel bronze access frame and non-skid cover.
- C. Cleanouts at Exterior Unsurfaced Areas:
  - 1. Line type with lacquered cast iron body and round epoxy coated gasketed cover.
- D. Cleanouts at Interior Finished Floor Areas (FFCO):
  - 1. Lacquered cast iron body with anchor flange, threaded top assembly, and round gasketed scored cover in service areas and round gasketed depressed cover to accept floor finish in finished floor areas.
- E. Cleanouts at Interior Finished Wall Areas (FWCO):
  - 1. Line type with lacquered cast iron body and round epoxy coated gasketed cover, and round stainless steel access cover secured with machine screw.
- F. Cleanouts at Interior Unfinished Accessible Areas: Caulked or threaded type.

2.2 HOSE BIBBS

- A. Interior Hose Bibbs:
  - 1. Bronze or brass with integral mounting flange, replaceable hexagonal disc, hose thread spout, with handwheel, integral vacuum breaker in conformance with ASSE 1011.

2.3 WATER HAMMER ARRESTORS

- A. Manufacturers:
  - 1. Sioux Chief Manufacturing
- B. Water Hammer Arrestors:
  - 1. Stainless steel or Copper construction, piston type sized in accordance with PDI-WH 201, precharged suitable for operation in temperature range 34 to 250 degrees F and maximum 150 psi working pressure.

## 2.4 MIXING VALVES

- A. Thermostatic Mixing Valves:
  - 1. Accessories:
    - a. Check valve on inlets.
    - b. Volume control shut-off valve on outlet.
    - c. Stem thermometer on outlet.
    - d. Strainer stop checks on inlets.

## 2.5 FLOOR DRAIN TRAP SEALS

- A. Description: Push-fit EPDM or silicone fitting with a one-way membrane.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.
- C. Encase exterior cleanouts in concrete flush with grade.
- D. Install floor cleanouts at elevation to accommodate finished floor.
- E. Install approved portable water protection devices on plumbing lines where contamination of domestic water may occur.
- F. Pipe relief from backflow preventer to nearest drain.
- G. Install water hammer arrestors on cold water supply piping to flush valve or solenoid operated fixtures.
- H. Install cleanouts at locations required by the International Plumbing Code (IPC), whether or not specifically indicated on the drawings. Such locations include, but are not limited to the following:
  - 1. Base of waste or soil stacks.
  - 2. Junction of building drain and building sewer (utilize 2-way cleanout at this location).

END OF SECTION 221006



SECTION 224000  
PLUMBING FIXTURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fixtures

1.2 RELATED REQUIREMENTS

- A. Section 221005 - Plumbing Piping.
- B. Section 221006 - Plumbing Piping Specialties.

1.3 REFERENCE STANDARDS

- A. ASHRAE Std 18 - Methods of Testing for Rating Drinking-Water Coolers with Self-Contained Mechanical Refrigeration; 2008.
- B. ASME A112.6.1M - Supports for Off-the-Floor Plumbing Fixtures for Public Use; 1997 (Reaffirmed 2002).
- C. ASME A112.18.1 - Plumbing Supply Fittings; 2012.
- D. ASME A112.19.2 - Ceramic Plumbing Fixtures; 2013.
- E. ASME A112.19.3 - Stainless Steel Plumbing Fixtures (Designed for Residential Use); 2008 (R2013).
- F. ASME A112.19.5 - Flush Valves and Spuds for Water Closets, Urinals, and Tanks; 2011.

1.4 SUBMITTALS

- A. See Division 1 Section - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
- C. Manufacturer's Instructions: Indicate installation methods and procedures.
- D. Maintenance Data: Include fixture trim exploded view and replacement parts lists.
- E. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. Extra Faucet Washers: Two sets of each type and size.
  - 2. Flush Valve Service Kits: Two for each type and size.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Accept fixtures on site in factory packaging. Inspect for damage.
- B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.6 WARRANTY

- A. Provide five year manufacturer warranty for electric water cooler.

PART 2 PRODUCTS

2.1 FIXTURES

- A. Scheduled on drawings
- B. Substitutions permitted, provided products are functionally and materially equivalent to those scheduled. Substitutions must be approved by Engineer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that walls and floor finishes are prepared and ready for installation of fixtures.
- B. Verify that electric power is available and of the correct characteristics.

- C. Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.
- 3.2 PREPARATION
  - A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.
- 3.3 INSTALLATION
  - A. Install each fixture with trap, easily removable for servicing and cleaning.
  - B. Provide chrome plated rigid or flexible supplies to fixtures with loose key stops, reducers, and escutcheons.
  - C. Install components level and plumb.
  - D. Install and secure fixtures in place with wall supports and bolts.
  - E. Seal fixtures to wall and floor surfaces with sealant, color to match fixture.
- 3.4 INTERFACE WITH WORK OF OTHER SECTIONS
  - A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.
- 3.5 ADJUSTING
  - A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.
- 3.6 CLEANING
  - A. Clean plumbing fixtures and equipment.
- 3.7 PROTECTION
  - A. Protect installed products from damage due to subsequent construction operations.
  - B. Do not permit use of fixtures by construction personnel.
  - C. Repair or replace damaged products before Date of Substantial Completion.
- 3.8 SCHEDULES
  - A. On Drawings

END OF SECTION 224000

SECTION 230001  
MECHANICAL DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Mechanical demolition.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment for patching and extending work: As specified in individual sections.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

4.1 EXAMINATION

- A. Verify field measurements, pipe, ductwork, and equipment arrangements for new work as shown on Drawings.
- B. Prior to submitting bid, visit site and become familiar with scope of demolition work required to accommodate new work.
- C. Refer to Architectural Drawings for additional clarification of scope of demolition and new work.
- D. Verify that abandoned equipment and associated mechanical installation serve only abandoned facilities.
- E. Demolition drawings are based on casual field observation .
- F. Should the contractor encounter any existing conditions related to the project area that prevent the work from being performed as indicated or described, contact the Architect immediately.
- G. Report discrepancies to Architect before disturbing existing installation.
- H. Beginning of demolition means installer accepts existing conditions.

4.2 DEMOLITION OF EXISTING MECHANICAL WORK

- A. Remove existing installations as indicated on drawings and as required to accommodate new work.
- B. Remove abandoned equipment, controls, air devices, ductwork, piping, fixtures, and other mechanical installation. Piping and ductwork to be removed to source of supply.
- C. Repair adjacent construction and finishes damaged during demolition and extension work.
- D. Maintain access to existing mechanical installations that remain active. Modify installation or provide access panels as appropriate.

4.3 CLEANING AND REPAIR

- A. Clean and repair existing materials and equipment that remain or that are to be reused.

END OF SECTION 230001



SECTION 233100  
HVAC DUCTS AND CASINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Metal ductwork.
- B. Duct cleaning.

1.2 RELATED REQUIREMENTS

- A. Section 230713 - Duct Insulation: External insulation and duct liner.
- B. Section 233300 - Air Duct Accessories.
- C. Section 230593 - Testing, Adjusting, and Balancing for HVAC.

1.3 REFERENCE STANDARDS

- A. ASHRAE (FUND) - ASHRAE Handbook - Fundamentals; 2013.
- B. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2015b.
- C. ASTM A480/A480M - Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip; 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 B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- F. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2014.
- G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- H. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005.

1.4 PERFORMANCE REQUIREMENTS

- A. No variation of duct configuration or sizes permitted except by written permission. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts.

1.5 SUBMITTALS

- A. See Division 1 Section - Administrative Requirements, for submittal procedures.
- B. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.6 FIELD CONDITIONS

- A. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.
- B. Maintain temperatures within acceptable range during and after installation of duct sealants.

PART 2 PRODUCTS

2.1 DUCT ASSEMBLIES

2.2 MATERIALS

- A. Galvanized Steel for Ducts: Hot-dipped galvanized steel sheet, ASTM A653/A653M FS Type B, with G60/Z180 coating.
- B. Aluminum for Ducts: ASTM B209 (ASTM B209M); aluminum sheet, alloy 3003-H14. Aluminum Connectors and Bar Stock: Alloy 6061-T651 or of equivalent strength.
- C. Stainless Steel for Ducts: ASTM A 240/A 240M, Type 304.
- D. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.

1. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts.
  2. Surface Burning Characteristics: Flame spread of zero, smoke developed of zero, when tested in accordance with ASTM E84.
- E. Insulated Flexible Ducts:
1. Two ply vinyl film supported by helically wound spring steel wire; fiberglass insulation; polyethylene vapor barrier film.
    - a. Pressure Rating: 10 inches WG positive and 1.0 inches WG negative.
    - b. Maximum Velocity: 4000 fpm.
    - c. Temperature Range: -10 degrees F to 160 degrees F.
- F. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
- 2.3 DUCTWORK FABRICATION
- A. Fabricate and support in accordance with SMACNA HVAC Duct Construction Standards and as indicated.
  - B. No variation of duct configuration or size permitted except by written permission.
  - C. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
  - D. Construct T's, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows must be used, provide air foil turning vanes of perforated metal with glass fiber insulation.
  - E. Provide turning vanes of perforated metal with glass fiber insulation when acoustical lining is indicated.
  - F. Provide air foil turning vanes when rectangular elbows must be used.
  - G. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.
  - H. Fabricate continuously welded round and oval duct fittings in accordance with SMACNA HVAC Duct Construction Standards.
  - I. Provide standard 45 degree lateral wye takeoffs unless otherwise indicated where 90 degree conical tee connections may be used.
  - J. Where ducts are connected to exterior wall louvers and duct outlet is smaller than louver frame, provide blank-out panels sealing louver area around duct. Use same material as duct, painted black on exterior side; seal to louver frame and duct.

## 2.4 MANUFACTURED DUCTWORK AND FITTINGS

- A. Manufacture in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- B. Transverse Duct Connection System: SMACNA "E" rated rigidly class connection, interlocking angle and duct edge connection system with sealant, gasket, cleats, and corner clips.
  1. Manufacturers:

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install, support, and seal ducts in accordance with SMACNA HVAC Duct Construction Standards.
- B. Install in accordance with manufacturer's instructions.
- C. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- D. Duct sizes indicated are inside clear dimensions. For lined ducts, maintain sizes inside lining.
- E. Install and seal metal and flexible ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.

- F. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide pilot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring.
- G. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.
- H. Use crimp joints with or without bead for joining round duct sizes 8 inch and smaller with crimp in direction of air flow.
- I. Use double nuts and lock washers on threaded rod supports.
- J. Connect flexible ducts to metal ducts with draw bands plus sheet metal screws and adhesive. Use a maximum of 5' of flexible duct, at final connection to diffusers only, free of kinks. Do not install above inaccessible ceilings. Do not use flexible ductwork in exposed areas.
- K. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- L. At exterior wall louvers, seal duct to louver frame and install blank-out panels.

### 3.2 CLEANING

- A. Clean duct system and force air at high velocity through duct to remove accumulated dust. To obtain sufficient air, clean half the system at a time. Protect equipment that could be harmed by excessive dirt with temporary filters, or bypass during cleaning.

### 3.3 SCHEDULES

- A. Ductwork Material:
  - 1. Low Pressure Supply (Heating Systems): Steel.
  - 2. Low Pressure Supply (System with Cooling Coils): Steel.
  - 3. Return and Relief: Steel.
  - 4. General Exhaust: Steel.
  - 5. Outside Air Intake: Steel.
- B. Ductwork Pressure Class:
  - 1. Supply (System with Cooling Coils): 1 inch.
  - 2. Return and Relief: 1 inch.
  - 3. General Exhaust: 1/2 inch.
- C. Round ductwork shall be double wall spiral where exposed. Concealed round ductwork may be spiral, double or single wall, or fabricated.

END OF SECTION 233100





SECTION 233700  
AIR OUTLETS AND INLETS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Diffusers.
- B. Registers/grilles.
- C. Roof hoods.

1.2 REFERENCE STANDARDS

- A. ASHRAE Std 70 - Method of Testing the Performance of Air Outlets and Inlets; 2006 (R2011).
- B. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005.

1.3 SUBMITTALS

- A. See Division 1 Section - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data for equipment required for this project. Review outlets and inlets as to size, finish, and type of mounting prior to submission. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.

1.4 QUALITY ASSURANCE

- A. Test and rate air outlet and inlet performance in accordance with ASHRAE Std 70.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Hart & Cooley, Inc: [www.hartandcooley.com](http://www.hartandcooley.com).
- B. Krueger: [www.krueger-hvac.com/#sle](http://www.krueger-hvac.com/#sle).
- C. Price Industries: [www.price-hvac.com/#sle](http://www.price-hvac.com/#sle).
- D. Titus: [www.titus-hvac.com/#sle](http://www.titus-hvac.com/#sle).

2.2 DIFFUSERS, REGISTERS, AND GRILLES

- A. Type and performance are scheduled on the drawings.
- B. Coordinate finish of all devices with Architect.

2.3 ROOF HOODS

- A. Fabricate air inlet or exhaust hoods in accordance with SMACNA HVAC Duct Construction Standards.
- B. Fabricate of galvanized steel, minimum 16 gage base and 20 gage hood, or aluminum, minimum 16 gage base and 18 gage hood; suitably reinforced; with removable hood; birdscreen with 1/2 inch square mesh for exhaust and 3/4 inch for intake, and factory prime coat finish.
- C. Mount unit on minimum 12 inch high curb base with insulation between duct and curb.
- D. Make hood outlet area minimum of twice throat area.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Check location of outlets and inlets and make necessary adjustments in position to conform with architectural features, symmetry, and lighting arrangement.
- C. Install diffusers to ductwork with air tight connection.
- D. Provide balancing dampers on duct take-off to diffusers, and grilles and registers, despite whether dampers are specified as part of the diffuser, or grille and register assembly. Omit dampers where drawings specifically indicate devices are to be provided without dampers.

E. Paint ductwork visible behind air outlets and inlets matte black. Coordinate with G.C.

END OF SECTION 233700