SPECIFICATIONS

LAKE LAND COLLEGE
WOMEN'S LOCKER DESIGN

Project No. 22074

100% CONSTRUCTION DOCUMENTS

March 3, 2023

Lake Land College
5001 Lake Land Blvd
Mattoon, IL 61938

BY:
Bailey Edward Design
1103 S. Mattis Avenue
Champaign, IL 61821
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bailey edward

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WOMEN'S LOCKER DESIGN

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DOCUMENT 00 11 13 - ADVERTISEMENT FOR BIDS

1.1 PROJECT INFORMATION

A. Notice to Bidders: Qualified bidders may submit bids for project as described in this Document. Submit bids according to the Instructions to Bidders.

B. Project Identification: 022074 – LLC Women's Locker Rooms Renovation

1. Project Location: 5001 Lake Land Blvd, Mattoon, IL 61938

C. Owner: Greg Nuxoll, CPA
Vice President for Business Services
Lake Land College
5001 Lake Land Blvd.
Mattoon, IL 61938

D. Architect: Bailey Edward Design, Inc.
James Auler, Project Manger
1103 S. Mattis Ave.
Champaign, IL 61821
(312) 789-4007

E. Project Description: Project consists of:

1. This renovation project includes but is not limited to:
   • Converting ~2,700 sf existing classrooms into new locker and toilet rooms, including appropriate finishes, lighting, plumbing, and HVAC
   • New lobby flooring
   • Selective demolition in existing shower and locker room areas

2. Project cost range is anticipated to be under $700,000

F. Construction Contract: Bids will be received for the following Work:

1. General Contract (all trades).
2. Multiple Contract Project consisting of the following prime contracts:

   a. General Building Construction.
   b. Plumbing Construction.
   c. Mechanical Construction.
   d. Electrical Construction.

1.2 BID SUBMITTAL AND OPENING

A. Owner will receive sealed lump sum bids until the bid time and date at the location given below. Owner will consider bids prepared in compliance with the Instructions to Bidders issued by Owner, and delivered as follows:

1. Bid Date: **March 30, 2023**

2. Bid Time: **3:00pm**, local time.
3. Location: Neal Hall Room 109, 5001 Lake Land Blvd, Mattoon, IL 61938.

B. Bids will be thereafter publicly opened and read aloud.

1.3 BID SECURITY

A. Bid security shall be submitted with each bid in the amount of 5 percent of the bid amount. No bids may be withdrawn for a period of 60 days after opening of bids. Owner reserves the right to reject any and all bids and to waive informalities and irregularities.

1.4 PREBID MEETING

A. Prebid Meeting: See Document 002513 "Prebid Meetings."

B. Prebid Meeting: A Prebid meeting for all bidders will be held at the Field House Building Room 103, 5001 Lake Land Blvd, Mattoon, IL 61938 on **March 22, 2023** at **2:00 p.m.**, local time. Prospective prime bidders are requested to attend.

1.5 DOCUMENTS

A. A complete set of documents will be available from Eastern Engineering, 404 E. University Ave., Champaign, IL. 61820, www.easternengineering.com, 217.359.3261.

B. Refundable Plan Deposit: $150.00 for each set of bid documents. Two (2) sets maximum, Additional sets may be purchased without refund.

C. For Electronic sets, contact Eastern Engineering at www.easternengineering.com, 217.359.3261

D. Plan deposits will be refunded in full upon the return of the Bid Documents, in good condition, within thirty (30) days after the bid opening. The deposits of General Contractors, who do not submit a bonafide bid or do not return the Bid Documents within thirty (30) days after the bid opening, will not be refunded.

E. Contractor and Subcontractors shall include in bids, the cost for the current prevailing wage (Illinois Prevailing Wage Act - 820 ILCS 130/0.01 et seq.). The Contractor shall ensure that any Subcontractors shall comply with the Illinois Prevailing Wage Act.

1.6 TIME OF COMPLETION AND LIQUIDATED DAMAGES

A. Successful bidder shall begin the Work on receipt of the Notice to Proceed and shall complete the Work within the Contract Time. Work is subject to liquidated damages.

1.7 BIDDER'S QUALIFICATIONS

A. Once awarded the contract, the Contractor will furnish a satisfactory performance bond, execute the contract and proceed with the work. The Contractor shall indicate the amount of the performance bond on the bid form.

1.8 NOTIFICATION

A. This Advertisement for Bids document is issued by:

Greg Nuxoll, CPA
Vice President for Business Services
Lake Land College
5001 Lake Land Blvd.
Mattoon, IL 61938

END OF DOCUMENT 00 11 13

SECTION 00 21 13 – INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 INSTRUCTIONS TO BIDDERS

A. AIA Document A701, "Instructions to Bidders," is hereby incorporated into the Procurement and Contracting Requirements by reference.
   1. A copy of AIA Document A701-2018, "Instructions to Bidders," is bound in this Project Manual.

B. AIA Document A201 “General Conditions” is hereby incorporated into the Procurement.
   1. A copy of AIA Document A201-2017 “General Conditions” is bound in this project manual.

END OF DOCUMENT 00 21 13

AIA® Document A701™ – 2018

Instructions to Bidders

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

Lake Land College
Women's Locker Design

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

Lake Land College
5001 Lake Land Blvd
Mattoon, IL 61938

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

Bailey Edward Design, Inc.
1103 S. Mattis Avenue
Champaign, IL 61821
Telephone Number: 217.363.3375

TABLE OF ARTICLES

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

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

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

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

ARTICLE 1 DEFINITIONS

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

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

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

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

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

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

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

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

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

ARTICLE 2 BIDDER'S REPRESENTATIONS

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

.1 the Bidder has read and understands the Bidding Documents;

.2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;

.3 the Bid complies with the Bidding Documents;

.4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;

.5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and

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

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

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

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

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

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

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

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

§ 3.2 Modification or Interpretation of Bidding Documents

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

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least seven days prior to the date for receipt of Bids.
(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)

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

§ 3.3 Substitutions

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

§ 3.3.2 Substitution Process

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

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

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

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

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

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

§ 3.4 Addenda

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

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

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

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

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

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

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

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

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

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

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

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

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

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

§ 4.2 Bid Security

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

(Insert the form and amount of bid security.)

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount

of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. In the event the Owner fails to comply with Section 6.2, the amount of the bid security shall not be forfeited to the Owner.

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

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

§ 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:
(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)

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

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

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

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

§ 4.4 Modification or Withdrawal of Bid

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

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

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

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

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

§ 5.2 Rejection of Bids

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

§ 5.3 Acceptance of Bid (Award)

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

§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

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

§ 6.2 Owner's Financial Capability

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

§ 6.3 Submittals

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

.1 a designation of the Work to be performed with the Bidder's own forces;

.2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and

.3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

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

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

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

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

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

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

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.
(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)

§ 7.2 Time of Delivery and Form of Bonds

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

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

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

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

ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

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

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

.4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013.)

.5 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda:

Number	Date	Pages

.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.)

[ ] The Sustainability Plan:

Title	Date	Pages

[ ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents listed below:
(List here any additional documents that are intended to form part of the Proposed Contract Documents.)

AIA® Document A201™ – 2017

General Conditions of the Contract for Construction

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

Lake Land College
Women's Locker Design

THE OWNER:
(Name, legal status and address)

Lake Land College
5001 Lake Land Blvd
Mattoon, IL 61938

THE ARCHITECT:
(Name, legal status and address)

Bailey Edward Design, Inc,
1103 S. Mattis Avenue
Champaign, IL 61821

TABLE OF ARTICLES

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

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

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14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES

INDEX
(Topics and numbers in bold are Section headings.)

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.

1.1 INSTRUCTIONS TO BIDDERS

A. Instructions to Bidders for Project consist of the following:

1. AIA Document A701 - 2018, "Instructions to Bidders" a copy of which is bound in this Project Manual.
2. The following Supplementary Instructions to Bidders that modify and add to the requirements of the Instructions to Bidders.

1.2 SUPPLEMENTARY INSTRUCTIONS TO BIDDERS, GENERAL

A. The following supplements modify AIA Document A701, "Instructions to Bidders." Where a portion of the Instructions to Bidders is modified or deleted by these Supplementary Instructions to Bidders, unaltered portions of the Instructions to Bidders shall remain in effect.

1.3 ARTICLE 2 - BIDDER'S REPRESENTATIONS

A. Add Section 2.1.7:

1. 2.1.7 - The Bidder has investigated all required fees, permits, and regulatory requirements of authorities having jurisdiction and has properly included in the submitted bid the cost of such fees, permits, and requirements not otherwise indicated as provided by Owner.

B. Add Section 2.1.8:

1. 2.1.8 - The Bidder is a properly licensed Contractor according to the laws and regulations of the local and state jurisdictions and meets qualifications indicated in the Procurement and Contracting Documents.

C. Add Section 2.1.9:

1. 2.1.9 - The Bidder has incorporated into the Bid adequate sums for work performed by installers whose qualifications meet those indicated in the Procurement and Contracting Documents.

1.4 ARTICLE 3 - BIDDING DOCUMENTS

A. 3.4 - Addenda:

1. Delete Section 3.4.3 and replace with the following:

a. 3.4.3 - Addenda may be issued at any time prior to the receipt of bids.

2. Add Section 3.4.4.1:

a. 3.4.4.1 - Owner may elect to waive the requirement for acknowledging receipt of 3.4.4 Addenda as follows:

1) 3.4.4.1.1 - Information received as part of the Bid indicates that the Bid, as submitted, reflects modifications to the Procurement and Contracting Documents included in an unacknowledged Addendum.
2) 3.4.4.1.2 - Modifications to the Procurement and Contracting Documents in an unacknowledged Addendum do not, in the opinion of Owner, affect the Contract Sum or Contract Time.

1.5 ARTICLE 4 - BIDDING PROCEDURES

A. 4.1 - Preparation of Bids:

1. Add Section 4.1.9:

a. 4.1.9 - Owner may elect to disqualify a bid due to failure to submit a bid in the form requested, failure to bid requested alternates or unit prices, failure to complete entries in all blanks in the Bid Form, or inclusion by the Bidder of any alternates, conditions, limitations or provisions not called for.

B. 4.2 - Bid Security:
1. Delete section 4.2.1 and replace with the following:
a. Each Bid shall be accompanied by a bid security in the form and amount required in the bid documents and noted in 00 41 06.

C. 4.3 - Submission of Bids:

1. Delete section 4.3.1 and replace with the following:
a. A Bidder shall submit paper copies its Bid, the bid security, and all other documents required by the bid documents.

2. Add Section 4.3.2.1:

a. 4.3.2.1 - Include Bidder's Contractor License Number applicable in Project jurisdiction on the face of the sealed bid envelope.

D. 4.4 - Modification or Withdrawal of Bid:

1. Add the following sections to 4.4.1:

a. 4.4.1.1 - Such modifications to or withdrawal of a bid may only be made by persons authorized to act on behalf of the Bidder. Authorized persons are those so identified in the Bidder's corporate bylaws, specifically empowered by the Bidder's charter or similar legally binding document acceptable to Owner, or by a power of attorney, signed and dated, describing the scope and limitations of the power of attorney. Make such documentation available to Owner at the time of seeking modifications or withdrawal of the Bid.

b. 4.4.1.2 - Owner will consider modifications to a bid written on the sealed bid envelope by authorized persons when such modifications comply with the following: the modification is indicated by a percent or stated amount to be added to or deducted from the Bid; the amount of the Bid itself is not made known by the modification; a signature of the authorized person, along with the time and date of the modification, accompanies the modification. Completion of an unsealed bid form, awaiting final figures from the Bidder, does not require power of attorney due to the evidenced authorization of the Bidder implied by the circumstance of the completion and delivery of the Bid.

1.6 ARTICLE 5 - CONSIDERATION OF BIDS

A. 5.2 - Rejection of Bids:

1. Add Section 5.2.1:

a. 5.2.1 - Owner reserves the right to reject a bid based on Owner's and Engineer's evaluation of qualification information submitted following opening of bids. Owner's evaluation of the Bidder's qualifications will include: status of licensure and record of compliance with licensing requirements, record of quality of completed work, record of Project completion and ability to complete, record of financial management including financial resources available to complete Project and record of timely payment of obligations, record of Project site management including compliance with requirements of authorities having jurisdiction, record of and number of current claims and disputes and the status of their resolution, and qualifications of the Bidder's proposed Project staff and proposed subcontractors.

1.7 ARTICLE 6 – POST-BID INFORMATION

A. 6.1 - Contractor's Qualification Statement:

1. Add Section 6.1.1:

a. 6.1.1 - Submit Contractor's Qualification Statement no later than five days after the bid submittal.

1.8 ARTICLE 7 - PERFORMANCE BOND AND PAYMENT BOND

A. 7.1 - Bond Requirements:

1. Add Section 7.1.1.1:

a. 7.1.1.1 – A Performance Bond will be required, in an amount equal to 100 percent of the Contract Sum.

B. 7.2 - Time of Delivery and Form of Bonds:

1. Delete the first sentence of Section 7.2.1 and insert the following:

a. The Bidder shall deliver the required bonds to Owner no later than 10 days after the date of Notice of Intent to Award and no later than the date of execution of the Contract, whichever occurs first. Owner may deem the failure of the Bidder to deliver required bonds within the period of time allowed a default.

2. Delete Section 7.2.3 and insert the following:

a. 7.2.3 - Bonds shall be executed and be in force on the date of the execution of the Contract.

1.9 ARTICLE 8 – ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

A. The form of agreement between Owner and Contractor is included in specifications and is bound in this project manual.

1.10 ARTICLE 9 - EXECUTION OF THE CONTRACT

A. Add Article 9:

1. 9.1.1 - Subsequent to the Notice of Intent to Award, and within 10 days after the prescribed Form of Agreement is presented to the Awardee for signature, the Awardee shall execute and deliver the Agreement to Owner, in such number of counterparts as Owner may require.

2. 9.1.2 - Owner may deem as a default the failure of the Awardee to execute the Contract and to supply the required bonds when the Agreement is presented for signature within the period of time allowed.

3. 9.1.3 - Unless otherwise indicated in the Procurement and Contracting Documents or the executed Agreement, the date of commencement of the Work shall be the date of the executed Agreement or the date that the Bidder is obligated to deliver the executed Agreement and required bonds to Owner.

4. 9.1.4 - In the event of a default, Owner may declare the amount of the Bid security forfeited and elect to either award the Contract to the next responsible bidder or re-advertise for bids.

END OF DOCUMENT 00 22 13

SECTION 00 22 44 - ADDITIONAL INSURANCE REQUIREMENTS

1.1 INSURANCE

The Contractor shall purchase and maintain insurance as required in the current edition of the Standard Form of Agreement Between Owner and Contractor where the Basis of Payment is a Stipulated Sum, AIA Document A101 and the General Condition of the Contract for Construction, AIA Document A201 as modified by these specifications, AIA General Conditions and Supplements to the AIA General Conditions, Article 11

A. All of the above documents shall be thoroughly studied prior to purchases of an insurance policy to cover the Project.

B. While not limited to the following requirements, the requirements listed below are brought to the Contractors Specific attention.

1) Lake Land College, and the Architect/Engineer shall be named as additional insureds on the Commercial General Liability Policy and the Umbrella Liability Policy.

2) Waivers of Subrogation are required for both Property Insurance and for Liability Insurance.

1.2 ADDITIONAL LIABILITY INSURANCE REQUIREMENTS

In addition to the liability insurance requirements noted in Paragraph 1.01 above, the following requirements also apply:

A. The Contractor shall purchase and maintain a Commercial General Liability Policy which shall include the following coverage areas:

1) Operations of the Contractor - direct liability coverage for the Contractors activities at a permanent location and the Project Site;
2) Operations of Subcontractors - Liability coverage for those entities for which the Contractor has a duty to supervise and stand legally responsible for their conduct;
3) Completed Operations - Liability for property damage and bodily injury and death that occurs after Substantial Completion;
4) Personal Injury - Including but not limited to, libel, slander, defamation of character, wrongful eviction, right of private occupancy, false arrest and detention and other similar personal injuries;
5) Employees as Additional Insured - Include employees and their acts into the coverage;
6) Explosion, Collapse, Underground - Liability coverage for the property of others to include, but not limited to, unknown utilities; and
7) Contractual Liability - coverage for the assumption of others by Contract.

B. The Commercial General Liability Policy shall name Lake Land Collete, the Architect, the Architect's Consultants, their agents and employees as additional insured.

C. The Contractor shall purchase and maintain Workers Compensation and Employees Liability Insurance.

D. The Contractor shall purchase and maintain commercial Automobile Liability Insurance. This policy shall cover Owned, Non-owned and Hired vehicles.

E. The Contractor shall purchase and maintain Umbrella Liability Coverage to provide higher limits of liability above those required for General Liability, Employers Liability and Automobile Liability.

F. The Umbrella Liability Policy shall name Lake Land College, the Architect, the Architect's

Consultants, their agents and employees as additional insured.

G. The Contractor shall purchase and maintain Owners Liability Insurance (Owners Protection Liability) which shall cover the Owners liability for all injuries and damages arising from the Project. This policy shall name the Architect and the Architect's Consultants, their agents and employees as additional insured.

H. Liability limits shall be as specified herein or the maximum exposure as stated in the Government Tort Claims Acts as most recently amended, whichever is higher.

I. The minimum amount of coverage and the limits of liability shall be as specified below:

1) Claims under workers' or workman's compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed:

a. As required by law.

2) Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees:

a. $1,000,000.00

3) Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees:

a. $ 500,000.00

4) Claims for damages insured by usual personal injury liability coverage which are sustained (1) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor, or (2) by another person:

a. $1,000,000.00

5) Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom:

a. $ 500,000.00

6) Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle:

a. $1,000,000.00

7) Claims involving contractual liability insurance applicable to the Contractor's obligations under Paragraph 3.18 of the General Conditions for the Contract for Construction as modified:

a. $ 500,000.00

1.3 SUBMITTAL REQUIREMENTS

A. Submit ACORD 25-S form along with the signed Agreement Between Owner and Contractor.

B. Lake Land College shall be listed as Certificate Holder.

C. Include the following sentence under Special Items:

"The Certificate Holder is Lake Land College, Architect, Architect's Consultants, including their Agents and Employees are named as additional insured's in both the General and Umbrella Liability Policy. Waivers of Subrogation are in effect for both liability and property insurance policies."

1.4 LOSS OF USE INSURANCE

A. The Owner, at the Owners option, may purchase and maintain such insurance that will protect the Owner against the loss of use of this property.

END OF SECTION 00 22 44

SECTION 00 25 13 – PREBID MEETING

1.1 PREBID MEETING

A. There will be a Prebid meeting as indicated below:

1. Meeting Date: See Section 00 11 13 - Advertisements for Bid
2. Meeting Time: See Section 00 11 13 - Advertisements for Bid
3. Location: See Section 00 11 13 - Advertisements for Bid

B. Bidder Questions: Submit written questions to be addressed at Prebid meeting a minimum of two business days prior to meeting.

C. Agenda: Prebid meeting agenda will include review of topics that may affect proper preparation and submittal of bids, including the following:

1. Procurement and Contracting Requirements:
   a. Instructions to Bidders.
   b. Bidder Qualifications.
   c. Bonding.
   d. Insurance.
   e. Bid Form and Attachments.
   f. Bid Submittal Requirements.
   g. Notice of Award.

2. Communication during Bidding Period:
   a. Obtaining documents.
   b. Bidder's Requests for Information.
   c. Bidder's Substitution Request/Prior Approval Request.
   d. Addenda.

3. Contracting Requirements:
   a. Agreement.
   b. The General Conditions.
   c. The Supplementary Conditions.
   d. Other Owner requirements.

4. Construction Documents:
   a. Scopes of Work.
   b. Temporary Facilities.
   c. Use of Site.
   d. Work Restrictions.
   e. Unit Price.
   f. Substitutions following award.

5. Schedule:
   a. Project Schedule.
   b. Contract Time.
   c. Other Bidder Questions.

6. Site/facility visit or walkthrough.

7. Post-Meeting Addendum.

D. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes to attendees of prebid meeting only. Minutes of meeting are issued as Available Information and do not constitute a modification to the Procurement and Contracting Documents. Modifications to the Procurement and Contracting Documents are issued by written Addendum only.

1. Sign-in Sheet: Minutes will include list of meeting attendees.

END OF DOCUMENT 00 25 13

Lake Land College
Woman's Locker Rooms

RETURN WITH BID

DOCUMENT 00 41 06 – BID BOND

_____

_____

as Principal, and _____
a corporation of the State of _____
as Surety, are held and firmly bound unto the Lake Land College the amount of ten percent (10%) of the amount of the base bid for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, to this agreement.

Principal has submitted to Obligee a bid to enter into a written contract, for

Project Number: _____ Division of Work: _____
in accordance with bidding documents for the project, which contract is by reference made a part hereof and is hereinafter referred to as "the Contract".

THE CONDITION OF THIS OBLIGATION is that if Principal, upon acceptance by Obligee of its bid within the period of time specified for acceptance, shall comply with all post award requirements as required by the terms of the bid within the time specified after date of the Notice of Award, or in the event of the failure to comply with all post award requirements, if Principal shall pay Obligee (1) for all costs of procuring the work which exceeds the amount of its bid, or (2) shall pay Obligee the amount of this bond as liquidated damages in the event Principal is a sole bidder and after an attempt to secure other bids by readvertising none can be obtained, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Surety hereby agrees that its obligation shall not be impaired by any extensions of time for Obligee's acceptance or compliance with post award requirements. Surety hereby waives notice of such extensions.

Signed and sealed this _____ day of _____ , 20____.

_____ _____
CONTRACTOR SURETY

BY _____ BY _____
SIGNATURE OFFICER OF THE SURETY

Title _____ Title _____

ATTEST:

_____
CORPORATE SECRETARY (Corporations only)

JURAT (Notary's Statement Authenticating Signature)

STATE OF _____

COUNTY OF _____
I, _____, a Notary Public in and for said county, do hereby certify that

(Insert Name of Attorney-In-Fact for SURETY)
who is personally known to me to be the same person whose name is subscribed to the foregoing instrument on behalf of SURETY, appeared before me this day in person and acknowledged respectively, that he/she signed, sealed, and delivered said instrument as his/her free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this _____ DAY OF _____ A.D. 20 ____

My commission expires _____

Notary Signature _____

SECTION 00 41 13 – BID FORM – STIPULATED SUM (SINGE-PRIME CONTRACT)

1.1 BID INFORMATION

A. Bidder: _____.
B. Project Name: Lake Land College Women's Locker Design
C. Project Location: 5001 Lake Land Blvd, Mattoon, IL 61938
D. Owner: Lake Land College

1.2 CERTIFICATIONS AND BID

A. **Base Bid, Single-Prime (All Trades) Contract**: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Bailey Edward Design, Inc., 1103 S. Mattis Avenue, Champaign, IL 61821, and their consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

1. _____Dollars

($_____)

1.3 TIME OF COMPLETION

A. Provided the contractor receives Notice to Proceed on or prior to January 30, 2023 the bidder agrees to be substantially complete with the Base Bid work on or before February 20, 2024.

1.4 ACKNOWLEDGEMENT OF ADDENDA

A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

1. Addendum No. 1, dated _____.
2. Addendum No. 2, dated _____.
3. Addendum No. 3, dated _____.

1.5 SUBMISSION OF BID

A. In submitting the Bid, the undersigned agree that this Proposal will not be withdrawn for a period of thirty (30) calendar days from the date of submission. It is understood the Owner reserves the right to reject any and all Bids and to waive informalities and irregularities.

1. Respectfully submitted this ____ day of _____, 2023.

2. Submitted By :_____
(Name of bidding firm or corporation).

3. Authorized Signature :_____
(Handwritten signature).

4. Signed By :_____
(Type or print name).

5. Title :_____
(Owner/Partner/President/Vice President).

6. Witness By :_____
(Handwritten signature).

7. Attest :_____
(Handwritten signature).

8. By :_____
(Type or print name).

9. Title :_____
(Corporate Secretary or Assistant Secretary).

10. Street Address:_____.

11. City, State, Zip: _____.

12. Phone: _____.

13. License No.:_____.

14. Federal ID No. :_____

(Affix Corporate Seal Here).

END OF DOCUMENT 00 41 13

SECTION 00 43 43 – PREVAILING RATE OF WAGES

1. PREVAILING WAGE ACT

1.1 Pursuant to Illinois Compiled Statutes 820 ILCS 130/0.01 et seq., these specifications list on the following pages, the Illinois Department of Labor prevailing rate of wages for the county where the contract is being performed and for each craft or type of worker needed to execute the contract.

1.2 Contractor shall submit certified payrolls with monthly application for payment.

1.3 A Project Labor Agreement (PLA) is required for this project.

END OF SECTION 00 43 43

Coles County Prevailing Wage Rates posted on 1/18/2023

						Overtime								
Trade Title	**Rg**	**Type**	**C**	**Base**	**Foreman**	**M-F**	**Sa**	**Su**	**Hol**	**H/W**	**Pension**	**Vac**	**Trng**	**Other Ins**
ASBESTOS ABT-GEN	All	BLD		33.00	34.25	1.5	1.5	2.0	2.0	7.25	19.84	0.00	0.90	
ASBESTOS ABT-MEC	All	BLD		25.45	26.45	1.5	1.5	2.0	2.0	9.95	8.25	0.00	0.50	
BOILERMAKER	All	BLD		41.50	45.00	1.5	1.5	2.0	2.0	7.07	26.56	0.00	1.06	
BRICK MASON	All	BLD		35.16	36.92	1.5	1.5	2.0	2.0	9.25	16.30	0.00	0.91	
CARPENTER	All	BLD		35.66	37.91	1.5	1.5	2.0	2.0	9.25	19.40	0.00	0.78	
CARPENTER	All	HWY		38.10	39.85	1.5	1.5	2.0	2.0	9.25	19.40	0.00	0.75	
CEMENT MASON	All	BLD		36.36	38.86	1.5	1.5	2.0	2.0	10.00	11.70	0.00	0.50	
CEMENT MASON	All	HWY		37.24	39.24	1.5	1.5	2.0	2.0	10.00	13.00	0.00	0.50	
CERAMIC TILE FINISHER	All	BLD		33.17	33.17	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
ELECTRIC PWR EQMT OP	All	ALL	1	48.67		1.5	1.5	2.0	2.0	8.35	13.63	0.00	0.49	
ELECTRIC PWR EQMT OP	All	ALL	2	43.40		1.5	1.5	2.0	2.0	8.35	12.15	0.00	0.43	
ELECTRIC PWR GRNDMAN	All	ALL		35.64		1.5	1.5	2.0	2.0	8.35	9.98	0.00	0.36	
ELECTRIC PWR LINEMAN	All	ALL		61.16	65.32	1.5	1.5	2.0	2.0	8.35	17.12	0.00	0.61	
ELECTRICIAN	All	BLD		41.00	45.10	1.5	1.5	2.0	2.0	7.93	12.13	0.00	0.62	
ELECTRONIC SYSTEM TECH	All	BLD		37.50	40.50	1.5	1.5	2.0	2.0	7.75	8.95	0.00	0.40	
ELEVATOR CONSTRUCTOR	All	BLD		53.26	59.92	2.0	2.0	2.0	2.0	16.07	20.56	4.26	0.70	
FENCE ERECTOR	All	ALL		34.24	37.66	1.5	1.5	2.0	2.0	8.95	15.50	0.00	0.65	
GLAZIER	All	BLD		37.95	39.95	1.5	1.5	2.0	2.0	7.45	12.57	0.00	0.68	
HEAT/FROST INSULATOR	All	BLD		32.84	34.34	1.5	1.5	2.0	2.0	7.10	14.14	0.00	0.54	
IRON WORKER	All	ALL		34.24	37.66	1.5	1.5	2.0	2.0	8.95	15.50	0.00	0.65	
LABORER	All	BLD		30.00	31.25	1.5	1.5	2.0	2.0	7.25	19.84	0.00	0.80	
LABORER	All	HWY		31.25	32.25	1.5	1.5	2.0	2.0	7.25	22.15	0.00	0.80	
LATHER	All	BLD		35.66	37.91	1.5	1.5	2.0	2.0	9.25	19.40	0.00	0.78	
MACHINIST	All	BLD		53.18	57.18	1.5	1.5	2.0	2.0	9.93	8.95	1.85	1.47	
MARBLE FINISHER	All	BLD		33.17	33.17	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
MARBLE MASON	All	BLD		34.69	34.69	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
MILLWRIGHT	All	BLD		34.58	36.83	1.5	1.5	2.0	2.0	9.25	20.94	0.00	0.78	
MILLWRIGHT	All	HWY		38.82	40.57	1.5	1.5	2.0	2.0	9.25	21.71	0.00	0.75	
OPERATING ENGINEER	All	ALL	1	43.85	46.85	1.5	1.5	2.0	2.0	11.35	12.50	0.00	1.30	
OPERATING ENGINEER	All	ALL	2	28.75	46.85	1.5	1.5	2.0	2.0	11.35	12.50	0.00	1.30	
OPERATING ENGINEER	All	ALL	3	45.85	46.85	1.5	1.5	2.0	2.0	11.35	12.50	0.00	1.30	

PAINTER	All	ALL		37.45	38.95	1.5	1.5	2.0	2.0	9.85	7.79	0.00	0.60	
PAINTER - SIGNS	All	ALL		37.45	38.95	1.5	1.5	2.0	2.0	9.85	7.79	0.00	0.60	
PILEDRIVER	All	BLD		36.66	38.91	1.5	1.5	2.0	2.0	9.25	19.40	0.00	0.78	
PILEDRIVER	All	HWY		38.10	39.85	1.5	1.5	2.0	2.0	9.25	19.40	0.00	0.75	
PIPEFITTER	All	BLD		48.54	51.55	1.5	1.5	2.0	2.0	8.75	11.14	0.00	2.14	0.10
PLASTERER	All	BLD		36.05	38.05	1.5	1.5	2.0	2.0	9.85	13.77	0.00	0.50	
PLUMBER	All	BLD		48.54	51.55	1.5	1.5	2.0	2.0	8.75	11.14	0.00	2.14	0.10
ROOFER	All	BLD		36.00	39.00	1.5	1.5	2.0	2.0	10.47	9.34	0.00	0.56	
SHEETMETAL WORKER	All	BLD		41.30	43.80	1.5	1.5	2.0	2.0	10.05	15.97	0.00	0.55	2.02
SPRINKLER FITTER	All	BLD		44.98	47.98	1.5	1.5	2.0	2.0	11.45	14.92	0.00	0.52	
STONE MASON	All	BLD		35.16	36.92	1.5	1.5	2.0	2.0	9.25	16.30	0.00	0.91	
TERRAZZO FINISHER	All	BLD		33.17	33.17	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
TERRAZZO MASON	All	BLD		34.69	34.69	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
TILE LAYER	All	BLD		35.66	37.91	1.5	1.5	2.0	2.0	9.25	19.40	0.00	0.78	
TILE MASON	All	BLD		34.69	34.69	1.5	1.5	2.0	2.0	9.25	12.70	0.00	0.50	
TRUCK DRIVER	All	ALL	1	40.91	45.27	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	ALL	2	41.50	45.27	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	ALL	3	41.77	45.27	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	ALL	4	42.16	45.27	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	ALL	5	43.26	45.27	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	O&C	1	32.73	36.22	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	O&C	2	33.20	36.22	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	O&C	3	33.42	36.22	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	O&C	4	33.73	36.22	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TRUCK DRIVER	All	O&C	5	34.61	36.22	1.5	1.5	2.0	2.0	14.69	7.16	0.00	0.25	
TUCKPOINTER	All	BLD		35.16	36.92	1.5	1.5	2.0	2.0	9.25	16.30	0.00	0.91	

Legend

Rg Region
Type Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers
C Class
Base Base Wage Rate
OT M-F Unless otherwise noted, OT pay is required for any hour greater than 8 worked each day, Mon through Fri. The number listed is the multiple of the base wage.
OT Sa Overtime pay required for every hour worked on Saturdays
OT Su Overtime pay required for every hour worked on Sundays
OT Hol Overtime pay required for every hour worked on Holidays
H/W Health/Welfare benefit

Vac Vacation
Trng Training
Other Ins Employer hourly cost for any other type(s) of insurance provided for benefit of worker.

Explanations COLES COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

Oil and chip resealing (O&C) means the application of road oils and liquid asphalt to coat an existing road surface, followed by application of aggregate chips or gravel to coated surface, and subsequent rolling of material to seal the surface.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER, MARBLE FINISHER, TERRAZZO FINISHER

Assisting, helping or supporting the tile, marble and terrazzo mechanic by performing their historic and traditional work assignments required to complete the proper installation of the work covered by said crafts. The term "Ceramic" is used for naming the classification only and is in no way a limitation of the product handled. Ceramic takes into consideration most hard tiles.

ELECTRONIC SYSTEMS TECHNICIAN

Installation, service and maintenance of low-voltage systems which utilizes the transmission and/or transference of voice, sound, vision, or digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, background/foreground music, intercom and telephone interconnect, field programming, inventory control systems, microwave transmission, multi-media, multiplex, radio page, school, intercom and sound burglar alarms and low voltage master clock systems.

Excluded from this classification are energy management systems, life safety systems, supervisory controls and data acquisition systems not intrinsic with the above listed systems, fire alarm systems, nurse call systems and raceways exceeding fifteen feet in length.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION Class 1. Drivers on 2 axle trucks hauling less than 9 ton. Air compressor and welding machines and brooms, including those pulled by separate units, truck driver helpers, warehouse employees, mechanic helpers, greasers and tiremen, pickup trucks when hauling materials, tools, or workers to and from and on-the-job site, and fork lifts up to 6,000 lb. capacity.

Class 2. Two or three axle trucks hauling more than 9 ton but hauling less than 16 ton. A-frame winch trucks, hydrolift trucks,

vactor trucks or similar equipment when used for transportation purposes. Fork lifts over 6,000 lb. capacity, winch trucks, four axle combination units, and ticket writers.

Class 3. Two, three or four axle trucks hauling 16 ton or more. Drivers on water pulls, articulated dump trucks, mechanics and working forepersons, and dispatchers. Five axle or more combination units.

Class 4. Low Boy and Oil Distributors.

Class 5. Drivers who require special protective clothing while employed on hazardous waste work.

TRUCK DRIVER - OIL AND CHIP RESEALING ONLY.

This shall encompass laborers, workers and mechanics who drive contractor or subcontractor owned, leased, or hired pickup, dump, service, or oil distributor trucks. The work includes transporting materials and equipment (including but not limited to, oils, aggregate supplies, parts, machinery and tools) to or from the job site; distributing oil or liquid asphalt and aggregate; stock piling material when in connection with the actual oil and chip contract. The Truck Driver (Oil & Chip Resealing) wage classification does not include supplier delivered materials.

OPERATING ENGINEERS - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION Class 1. Draglines, Derricks, Shovels, Gradalls, Mechanics, Tractor Highlift, Tournadozer, Concrete Mixers with Skip, Tournamixer, Two Drum Machine, One Drum Hoist with Tower or Boom, Cableways, Tower Machines, Motor Patrol, Boom Tractor, Boom or Winch Truck, Winch or Hydraulic Boom Truck, Tournapull, Tractor Operating Scoops, Bulldozer, Push Tractor, Asphalt Planer, Finishing Machine on Asphalt, Large Rollers on Earth, Rollers on Asphalt Mix, Ross Carrier or similar Machine, Gravel Processing Machine, Asphalt Plant Engineer, Paver Operator, Dredging Equipment, or Dredge Engineer, or Dredge Operator, Central Mix Plant Engineer, CMI or similar type machine, Concrete Pump, Truck or Skid Mounted, Engineer or Rock Crusher Plant, Concrete Plant Engineer, Ditching Machine with dual attachment, Tractor Mounted Loaders, Hydro Crane, Standard or Dinkey Locomotives, Scoopmobiles, Euclid Loader, Soil Cement Machine, Back Filler, Elevating Machine, Power Blade, Drilling Machine, including Well Testing, Caissons, Shaft or any similar type drilling machines, Motor Driven Paint Machine, Pipe Cleaning Machine, Pipe Wrapping Machine, Pipe Bending Machine, Apsco Paver, Boring Machine, (Head Equipment Greaser), Barber-Greene Loaders, Formless Paver, (Well Point System), Concrete Spreader, Hydra Ax, Span Saw, Marine Scoops, Brush Mulcher, Brush Burner, Mesh Placer, Tree Mover, Helicopter Crew (3), Piledriver-Skid or Crawler, Stump Remover, Root Rake, Tug Boat Operator, Refrigerating Machine, Freezing Operator, Chair Cart- Self-Propelled, Hydra Seeder, Straw Blower, Power Sub Grader, Bull Float, Finishing Machine, Self-Propelled Pavement Breaker, Lull (or similar type Machine), Two Air Compressors, Compressors hooked in Manifold, Chip Spreader, Mud Cat, Sull-Air, Fork Lifts (except when used for landscaping work), Soil Stabilizer (Seaman Tiller, Bo Mag, Rago Gator, and similar types of equipment), Tube Float, Spray Machine, Curing Machine, Concrete or Asphalt Milling Machine, Snooper Truck-Operator, Backhoe, Farm Tractors (with attachments), 4 Point Lift System (Power Lift or similar type), Skid-Steer (Bob Cat or similar type), Wrecking Shears, Water Blaster.

Class 2. Concrete Mixers without Skips, Rock Crusher, Ditching Machine under 6', Curbing Machine, One Drum Machines without Tower or Boom, Air Tugger, Self-Propelled Concrete Saw, Machine Mounted Post Hole Digger, two to four Generators, Water Pumps or Welding Machines, within 400 feet, Air Compressor 600 cu. ft. and under, Rollers on Aggregate and Seal Coat Surfaces, Fork Lift (when used for landscaping work), Concrete and Blacktop Curb Machine, One Water Pump, Oilers, Air Valves or Steam Valves, One Welding Machine, Truck Jack, Mud Jack, Gunnite Machine, House Elevators when used for hoisting material, Engine Tenders, Fireman, Wagon Drill, Flex Plane, Conveyor, Siphons and Pulsometer, Switchman, Fireman on Paint Pots, Fireman on Asphalt Plants, Distributor Operator on Trucks, Tampers, Self-Propelled Power Broom, Striping Machine (motor driven), Form Tamper, Bulk Cement Plant, Equipment Greaser, Deck Hands, Truck Crane Oiler-Driver, Cement Blimps, Form Grader, Temporary Heat, Throttle Valve, Super Sucker (and similar type of equipment).

Class 3. Power Cranes, Truck or Crawler Crane, Rough Terrain Crane (Cherry Picker), Tower Crane, Overhead Crane.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

SECTION 01 10 00 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Project information.
   2. Work covered by Contract Documents.
   3. Phased construction.
   4. Access to site.
   5. Coordination with occupants.
   6. Work restrictions.
   7. Specification and drawing conventions.
   8. Miscellaneous provisions.

1.3 PROJECT INFORMATION

A. Project Identification: Lake Land College Women's Locker Design
   1. Project Location: Lake Land College, 5001 Lake Land Blvd, Mattoon, IL 61938

B. Owner: Lake Land College

C. Owner's Representative:
Greg Nuxoll, CPA
Vice President for Business Services
Lake Land College
5001 Lake Land Blvd.
Mattoon, IL 61938

D. Architect: Bailey Edward Design, Inc.
James Auler
1103 S Mattis Ave
Champaign, Illinois 61821
217-363-3375
jauler@baileyedward.com

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:
   1. The general scope work of the project is defined by the contract documents and consists of three full locker room demo and renovations, underground and overhead piping runs to the existing

mechanical closet and alterations to flooring in other locations as indicated in the drawings and specified herein.

2. Alternate Bids: None

B. Type of Contract:
1. Project will be constructed under a single prime contract.

1.5 PHASED CONSTRUCTION

A. It is not anticipated that this work would require phased construction, but will require careful coordination with the College and another project scheduled for Summer 2023 to replace the basketball court gym floor.

1.6 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
1. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.7 COORDINATION WITH OCCUPANTS

A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.
1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.

1.8 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.
   1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, as permitted by the Owner and unless otherwise indicated.
   1. Weekend Hours: As permitted by The Owner.
   2. Early Morning Hours: As permitted by The Owner.
   3. Hours for Utility Shutdowns: by agreement with THE OWNER PM.
   4. Hours for noisy activity: As permitted by The Owner.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
   1. Notify Owner not less than two days in advance of proposed utility interruptions.
   2. Obtain Owner's written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
   1. Notify Owner not less than two days in advance of proposed disruptive operations.
   2. Obtain Owner's written permission before proceeding with disruptive operations.

E. Nonsmoking Building: Smoking is not permitted within the building or within anywhere on campus property. Violators will be asked to leave the premises.

F. Controlled Substances: Use of tobacco products and other controlled substances within the existing building or on Project site is not permitted.

G. Employee Identification: THE OWNER will distribute I.D. badges to work crew. Personnel will be required to use identification tags at all times.

1.9 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
   1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
   2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
   3. In cases where requirements indicated in specifications are in conflict those indicated on Drawings; requirements indicated in the specifications shall govern.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
   1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
   2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and as scheduled on Drawings.
   3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

SECTION 01 32 00 - CONSTRUCTION SCHEDULE

1. GENERAL

1.1 REQUIREMENTS INCLUDE:

A. The General Contractor shall prepare and maintain a detailed project schedule as described below.

B. The project schedule shall be the Contractor's working schedule; used to execute the work and record and report actual progress. It shall show how the Contractor plans to complete the work within the contract time and meet any contractually specified intermediate milestone dates.

1.2 RELATED REQUIREMENTS

A. Specified Elsewhere:

1. Section 01 10 00 - Project Summary
2. Section 01 33 23 - Shop Drawings, Product Data & Samples

1.3 FORM OF SCHEDULE

A. The schedule shall provide sufficient detail and clarity so that the General Contractor can plan and control the work and the Owner and the A/E can readily monitor and follow the progress of all portions of the work. The critical activities must be clearly shown. The degree of detail must be satisfactory to the A/E and the Owner.

1. Scope of work should be identified by floor level as applicable.

B. The project schedule shall be in the form of a Gantt chart, and shall indicate the critical path, including durations.

1.4 CONTENTS OF SCHEDULE

A. The schedule must be inclusive of all installation tasks of the work.

B. Submittal and approval of shop drawings and material samples as well as delivery dates of major equipment shall be included in the project schedule.

C. Activity duration shall be in whole working days.

D. There should be at least one activity for each specification section.

1.5 UPDATING

A. The project schedule shall be updated monthly.

B. Actual activity completion dates shall be reported and recorded on the schedule.

C. Progress on uncompleted activities shall be reported.

D. Projected completion dates and activities shall be reviewed and revised if necessary.

1.6 REPORTS AND SUBMITTALS

A. Within 15 days of the Authorization to Proceed, the Contractor shall submit the project schedule to the A/E and the Owner.

B. Five (5) days prior to the pay/progress meeting, the contractor shall submit the current updated schedule to the A/E and the Owner.

1.7 REVIEWS

A. Payment and reduction of retainage may be denied by the Owner for failure to submit a proper schedule and maintaining work progress according to the project schedule.

2. PRODUCTS

(NOT APPLICABLE)

3. EXECUTION

(NOT APPLICABLE)

END OF SECTION 01 32 00

SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA & SAMPLES

1. GENERAL

1.1 REQUIREMENTS INCLUDE

A. The Sub-contractor shall make submittals to the General Contractor. The General Contractor shall maintain a master list of submittals.

B. Submittals shall be complete and legible. Incomplete submittals will be returned and not reviewed.

1.2 GENERAL CONTRACTOR:

A. Review Sub-contractor’s submittals within 5 business days.

1. Verify field dimensions.
2. Verify compliance with Contract requirements.

1.3 RELATED REQUIREMENTS

A. Specified elsewhere:

1. Submittals specific to each section are further outlined within the technical specifications. Submittals deemed incomplete or not indication as supplied by separate sub, shall be returned without review.

1.4 DEFINITIONS

A. Shop drawings: Shop drawings are original drawings prepared by Contractor, subcontractor, sub-subcontractor, supplier or distributor, which illustrated some portion of the work, showing fabrication, layout, setting or erection details.

1. Prepared by qualified detailer.
2. Identify details by reference to sheet and detail numbers shown on contract drawings.
3. Maximum sheet size: 30" x 42"
4. Submit a maximum of (3) copies. Electronic copies of submittals are preferred.

B. Product data:

1. Manufacturer's standard schematic drawings edited to fit this project.
2. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.

a. Clearly mark each copy to identify pertinent materials, products or models.
b. Show dimensions and clearances.
c. Show wiring diagrams and controls.

C. Samples: Physical samples to illustrate materials, equipment or workmanship. Approved samples establish standards by which complete work is judged. Maintain at site as directed. Protect until no longer needed.

1. Office samples: Of sufficient size to clearly illustrate:

a. Functional characteristics of product or material.
b. Full range of color samples.
c. After review, samples may be used on construction of project.

2. Field samples and mock-ups:

    a. Erect at project site at location approved by the Architect.
    b. Construct each sample or mock-up complete, including work of all crafts required in finished work.
    c. Remove as directed.

1.5 SUBMITTAL SCHEDULE

A. Submit schedule of all exhibits to Architect/Engineer within fifteen (15) business days after preconstruction meeting.

1. Prepare schedule in gnatt chart format, Include:

    a. Exhibit identification
    b. Specification section and page number
    c. Date of submittal to Architect/Engineer
    d. Latest date for final approval
    e. Fabrication time.
    f. Date of Installation

2. Architect/Engineer will review and comment on exhibit schedule and will advise the Contractor as to which submittals require longer review durations.

3. Submit number of copies of shop drawings, product data and samples which contractor requires for distribution plus (2) copies which will be retained by Architect/Engineer.

B. Accompany submittals with transmittal letter, in duplicate, containing:

1. Date
2. Project title and number
3. Contractor’s name and address.
4. The number of shop drawings, product data and samples submitted.
5. Notification of deviations from Contract.
6. Other pertinent data.

C. Submittals shall include:

1. Date and revision
2. Project title and number
3. Name of:
    a. Architect/ Engineer
    b. Architect/ Engineer consultant
    c. Subcontractor
    d. Sub-subcontractor
    e. Supplier
    f. Manufacturer
    g. Separate detailer when pertinent
4. Identification of product or material.
5. Relation to adjacent structure or material.
6. Field dimensions clearly identified as such.
7. Specification section and page number.
8. Specified standards, such as ASTM number or ANSI.
9. A blank space, (5”x5”), for Architect/Engineer’s stamp.
10. Identification of previously approved deviation(s) from contract documents.

11. Contractor’s stamp, initialed or signed, certifying to review of submittal, verification of field measurements and compliance with Contract.
12. Space for Contractor’s approval stamp.

D. Electronic Submittals: All submittals may be submitted electronically except for those specifically listing a requirement for paper submittals or physical samples. Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single file (pdf format) incorporating submittal requirements of a single Specification Section and transmittal form. Only complete submittals will be accepted.
2. Name file with submittal number or other unique identifier, including revision identifier.
   a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g.; PROJNAME_061000.01). Resubmittals shall include an alphabetic suffix after the decimal point (e.g.; PROJNAME_061000.01A)
3. Provide means for insertion to permanently record Contractor’s review and approval markings and action taken by Using Agency/ Architect/ Engineer.
4. Transmittal Cover Sheet Form for Electronic Submittals: As described by the Architect and containing all information as indicated above for paper submittals.

1.6 RESUBMISSION REQUIREMENTS

A. Resubmit all shop drawings, product data, and samples as requested by the Contractor and/or A/E.

B. Resubmit complete package to Architect within 14 days of receiving rejected submittal.

1.7 RESPONSIBILITIES

A. Review shop drawings, product data and samples prior to submission to the next level of authority. Review Subcontractor’s submittals within five (5) business days. Certify review and transmit to Architect.

B. Verify:

1. Field dimensions.
2. Field construction criteria.
3. Catalog numbers and similar data.
4. Verify compliance with contract documents.

C. Coordinate each submittal with requirements of:

1. The work.
2. The contract documents.
3. The work of other contractors.
4. The existing conditions indicated to remain.

D. Contractor's responsibility for errors, omissions or deviation from contract documents in submittals is not relieved by the Architect/Engineer's review of submittals.

E. Prior to submission, notify the Architect/Engineer in writing of all proposed deviations in submittals from Contract requirements. Substitution of materials or equipment may only be approved by change order.

F. Do not begin any work which requires submittals without Architect/Engineer's approval.

G. After Architect/Engineer's review, make response required by A/E's stamp and distribute copies. Indicate by transmittal that copy of approved data has been delivered to installer.

1.8 ARCHITECT/ENGINEER'S RESPONSIBILITIES

A. Review submittals within fourteen (14) calendar days.

B. Review for:

1. Design concept of project.
2. Compliance with Contract Documents.

C. Review all requests for proposed deviations.

D. Affix stamp, date and initials or signature certifying review of submittal, and with instructions for the Contractor.

E. Return submittals to sender for response or distribution.

2. PRODUCTS
(NOT APPLICABLE)

3. EXECUTION
(NOT APPLICABLE)

END OF SECTION 01 33 23

SECTION 01 35 16 - REMODELING PROJECT PROCEDURES

1. GENERAL

1.1 REQUIREMENTS INCLUDE

A. General Contractor:

1. Coordinate work of employees and subcontractors.
2. Schedule elements of remodeling and renovation work to expedite completion.
3. Schedule noisy or hazardous work to avoid problems with Owner's operations.
4. In addition to demolition, cut, move or remove existing construction to provide access or to allow remodeling and new work to proceed. Include:

    a. Repair or remove hazardous or unsanitary conditions.
    b. Remove abandoned piping, conduit and wiring.
    c. Remove unsuitable or extraneous materials not marked for salvage, such as rotted wood, brick paving, rusted metals and deteriorated concrete.

5. Patch, repair and refinish existing items to remain, to the specified condition for each material, with a neat transition to adjacent new or restored construction.
6. Note or record existing project conditions before beginning work to minimize later disputes.

1.2 RELATED REQUIREMENTS

A. Specified elsewhere:

1. 01 32 00 - Construction Schedule.
2. 01 51 50 – Use of Existing Facilities
3. 01 73 29 - Cutting and Patching
4. 01 74 13 - Construction Cleaning
5. 01 74 23 - Final Cleaning.

1.3 SEQUENCE AND SCHEDULES

A. Submit separate detailed sub-schedule for alterations work, coordinated with Construction Schedule. Show:

1. Each stage of work; occupancy dates of areas.
2. Date of Substantial Completion for each area of alteration work.
3. Crafts and subcontractors employed in each stage.

1.4 ALTERATIONS, CUTTING AND PROTECTION

A. Cut finish surfaces by methods to terminate surfaces in a straight line at a natural point of division.

2. PRODUCTS (NOT USED)

3. EXECUTION

3.1 REMOVE EXISTING CONSTRUCTION

A. Temporary Removals:

1. Remove all items as noted on the drawings or otherwise required to complete the work shown.
2. Store all items as noted on the drawings or otherwise required to complete the work shown.
3. Recondition all existing items as noted on the drawings or otherwise required to complete the work shown.
4. Reinstall all items as noted on the drawings or otherwise required to complete the work shown.

B. Remove and dispose of existing items as noted in the documents.

3.2 PERFORMANCE. Patch and extend existing work using skilled craftsmen capable of matching existing quality of workmanship. For patched or extended work, provide quality equal to that specified for new work.

3.3 DAMAGED SURFACES

A. Patch and replace all portions of existing finished surfaces found to be damaged, lifted, discolored or showing other imperfections, with matching material.

1. Provide adequate support prior to patching the finish.
2. Refinish patched portions of painted or coated surfaces in a manner to produce uniform color and texture over entire surface.
3. When existing surface cannot be matched, refinish entire surface to nearest intersections or change of direction.

3.4 TRANSITION FROM EXISTING TO RESTORED WORK

A. When restored work abuts or finishes flush with existing work, make a smooth transition. Patched work shall match existing adjacent work in texture and appearance.

1. When finished surfaces are cut in such a way that a smooth transition with restored work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface.

3.5 CLEANING

A. Perform construction cleaning as specified in 01 74 13

B. At completion of work of each craft, clean area and make surfaces ready for work of successive crafts.

C. At completion of alterations work in each area, provide final cleaning in accord with 01 74 23 and return space to a condition suitable for use of User.

END OF SECTION 01 35 16

SECTION 01 51 50 - USE OF EXISTING FACILITIES

1. GENERAL

1.1 These requirements supplement and other sections of the Project Manual.

1.2 The Owner and public will not use the facility during construction. Portions of the parking lot may be used during construction. Some limited closure or barricades are expected for portions of the work. Contractor is responsible for coordinating all closures with Champaign County as necessary.

1.3 REQUIREMENTS INCLUDE - Contractor provide:

A. Scheduling
B. Security and site regulations
C. Entrances (if required)
D. Construction aids
E. Temporary enclosures and barriers
F. Fences
G. Temporary utilities
H. Construction Cleaning
I. Storage
J. Close-out

2. EXECUTION

2.1 SECURITY AND SITE REGULATIONS

A. Confer with the Owner's representative and obtain full knowledge of all site rules and regulations affecting work.

2.2 CONSTRUCTION AIDS: Except as noted, Contractor provide and maintain construction aids and equipment for common use and to facilitate execution of the work.

2.3 TEMPORARY ENCLOSURES AND BARRIERS - Contractor:

A. Provide temporary enclosures to separate work areas from existing parking and from areas occupied by Owner.

B. Provide and maintain suitable barriers to prevent unauthorized entry, and to protect the work.

2.4 TEMPORARY UTILITIES

A. Contractor shall provide and pay for extension or modification of services to perform the work, and for restoration of services at completion of work.

2.5 ACCESS ROADS & PARKING AREAS

A. Limit any loading of existing paved areas to 4000 p.s.i. maximum.

B. Use of existing parking facilities for construction personnel or for contractor's vehicles or equipment is not permitted.

C. Maintain roads, walks and parking areas in a sound, clean condition. Restore areas, damaged by construction operations, not in contract to original condition upon work completion prior to Final Acceptance.

D. Control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, Owner's operations or construction operations.

E. Coordinate any temporary construction vehicle entrance onto the property for deliveries or access with the Owner a minimum of (3) days prior to the necessity.

F. Equipment with bearing pressure above 4000 psi shall not be allowed on the grounds or paving.

2.6 TRAFFIC REGULATION: Contractor provide traffic control and directional signs, mounted on barricades or standard posts:

A. At each change of direction of a roadway and at parking areas.

B. Provide qualified and suitably equipped flaggers when construction operations encroach on traffic lanes, as required for traffic regulation.

C. Where contractor requires sidewalk closure to execute scope of work, permits and alternative access for pedestrians shall be provided in the work of this contract.

2.7 CONSTRUCTION CLEANING

A. Each Contractor provide cleaning and disposal of waste materials, debris and rubbish during construction.

B. Coordinating Contractor to supervise and coordinate cleaning operations of all Assigned Contractors.

C. Each Contractor provide covered containers for deposit of waste materials, debris and rubbish.

2.8 STORAGE Make arrangements with Owner's Representative for any on-site storage of materials and equipment to be installed in project. Protection and security for stored materials and equipment is solely contractor's responsibility.

2.9 CLOSEOUT

A. Upon completion of need to use existing user-provided facilities, or when directed by Architect/Engineer, restore each to original or specified condition.

B. At completion of work in each area, provide final cleaning and return space to a condition suitable for use of Owner.

END OF SECTION 01 51 50

SECTION 01 54 00 – CONSTRUCTION AIDS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDE

A. Contractor shall provide all labor and material to install and maintain construction aids and equipment for all personnel use and to facilitate execution of the work:

1. Ladders, working platforms and Scaffolding/Fall Protection.
2. Heavy Equipment.
3. Temporary enclosures, electrical power & water services, etc.
4. Construction Barriers, and dust/noise/fume separations.
5. Platforms.
6. Stairs.
7. Power and hand tools.

B. Each Contractor must comply with OSHA regulations as they relate to these construction aids and all applicable standards.

C. See respective specification sections for particular requirements.

D. Provide and maintain for own forces all other construction aids required to complete his work.

E. Remove all construction aids upon completion of the work, or as directed.

1.2 RELATED REQUIREMENTS

A. Specified elsewhere:

1. Section 01 10 00 - Project Summary.
2. Section 01 51 50 – Use of Existing Facilities.
3. Section 01 74 23 - Final Cleaning.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials may be new or used, suitable for purpose. Comply with specified codes, standards, and regulations.

2.2 CONSTRUCTION AIDS

A. Maintain facilities and equipment in first class, clean and operable condition.

PART 3 - EXECUTION

3.1 PREPARATION

A. Consult with Architect and Owner, review site conditions and factors which affect construction procedures and construction aids, including adjacent occupied areas which may be affected by execution of the work.

B. Coordinate with Owner for placement of barriers to maintain Owner operations, while protecting occupants form exposure to dust, noise, and fumes.

3.2 INSTALLATION

A. Comply with respective Project Manual Specification Sections.

B. Relocate construction aids as construction progresses to expedite storage or work and to accommodate legitimate requirements of the Owner and other contractors at the site.

3.3 REMOVAL:

A. Completely remove temporary materials, equipment and services:

1. When construction needs can be met by authorized use of permanent construction.
2. At project completion.

B. Clean and repair damage caused by installation or use of temporary facilities.

C. Restore existing facilities used for temporary purposes to original condition.

END OF SECTION 01 54 00

SECTION 01 56 00 - TEMPORARY BARRIERS AND ENCLOSURES

PART I - GENERAL

1.1 WORK INCLUDES

A. Base Bid: Use of Barriers and Enclosures: The Contractor shall provide all labor and materials necessary to furnish, erect and maintain temporary barriers, barricades, enclosures, and temporary construction fencing as required for the following:

1. To provide weather tight protection of building as roofing or deck is removed as part of the work in contract.
2. To protect the health and safety of occupants and the general public from exposure to immediate physical harm as well as to noise, dust, and fumes. Note that this Section does not provide minimum requirements related to Indoor Air Quality.
2. To protect new and pre-existing adjacent construction from exposure to physical damage, dust, dirt, and water.
3. To provide security of valuable property.
4. To protect trees and plants.

1.2 RELATED SECTIONS

A. Section 01 54 00 - Construction Aids

PART 2 - PRODUCTS

2.1 GENERAL FABRICATION

A. Substantial Construction: Barriers and enclosures shall be of adequately substantial construction to serve their purpose without failure throughout the duration of their use. Materials may be new or used, suitable for the intended purpose, but shall not violate requirements of applicable codes and standards.

B. Rigid Fencing: The general public, as well as adjacent lawns and plantings, shall be protected from harm by the installation of continuous, durable, rigid 6 foot high fencing at the limit lines of each construction area.

C. Tree Protection: Existing trees that are adjacent to a construction site shall be protected from damage by the installation of durable, rigid 6 foot high fencing at the drip line of each tree.

D. Dust enclosures.

PART 3 - EXECUTION

3.1 BASIC REQUIREMENTS

A. Install facilities of a neat and reasonable uniform appearance, structurally adequate for required purposes.

B. Install barriers and enclosures so as to not create new hazards such as tripping or protrusions that might be a source of safety concern to pedestrians or passers by.

C. Establish reasonable alternative access when necessary due to placement of barriers.

D. Maintain barriers during entire construction period.

E. Relocate barriers as required by progress of construction.

3.2 TREE AND PLANT PROTECTION REQUIREMENTS

A. Preserve and protect existing trees and plants at site which are designed to remain, and those adjacent to site.

B. Consult with the Owner for removal of agreed-on roots and branches which interfere with construction.

1. Employ a qualified tree surgeon to remove, and to treat cuts.

C. Provide temporary barriers to a height of six feet, around each, or around each group, of trees and plants. The barriers shall be placed at the drip line of each tree.

D. Protect root zones of trees and plants:

1. Do not allow vehicular traffic or parking.

2. Do not store materials or products.

3. Prevent dumping of refuse or chemically injurious materials or liquids.

4. Prevent puddling or continuous running water.

E. Carefully supervise excavating, grading and filling, and subsequent construction operations, to prevent damage.

F. Replace, or suitably repair, trees and plants designated to remain which are damaged or destroyed due to construction operations. Any damage and any necessary replacements will be evaluated by F&S horticulturists.

3.3 DUST ENCLOSURES

A. Dust enclosures shall be continuous barriers with a rigid frame, made of clean materials, which will prevent dust from leaving work areas. Additionally, they may be required to resist noise and fumes as necessitated by contractors work plan.

3.4 REMOVAL

A. Completely remove barricades, including foundations, when construction has progressed to the point that they are no longer needed, and when approved by the Architect.

B. Clean and repair damage caused by installation, fill and grade areas of the site to required elevations and slopes, and clean the area.

END OF SECTION 01 56 00

SECTION 01 62 04 – SUBSTITUTION PROCEDURES

1. GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for substitutions.

1.2 SUBSTITUTIONS

A. Base Bid shall be in accordance with the Contract Documents.

B. Substitution requests prior to bidding shall be submitted to Architect, in writing, a minimum of ten (10) days prior to bid date.

C. After the end of the bidding period, substitution requests will be considered only in case of:

1. Product unavailability
2. Other conditions beyond the control of the Contractor

D. Substitution Requests: Submit PDF electronic file of each request submitted for consideration. Identify product or fabrication or installation method to be replaced. Submit requests for substitutions on attached form. Submit a separate request form for each substitution. Include Specification Section number, title, and Drawing numbers and titles. Support each request with the following information:

1. Complete data substantiating compliance of proposed substitution with requirements stated in Contract Documents:

    a. Product identification, including manufacturer's name and address.
    b. Manufacturer's literature, identifying:

        1) Product description
        2) Reference standards
        3) Performance and test data

2. Itemized comparison of the proposed substitution with product specified, listing significant variations.
3. Data relating to changes in construction schedule.
4. Effects of substitution on separate contracts.
5. List of changes required in other work or products.
6. Accurate cost data comparing proposed substitution with product specified.

    a. Amount of net change to Contract Sum

7. Designation of required license fees or royalties.
8. Designation of availability of maintenance services sources replacement materials.

E. Substitutions will not be considered for acceptance when:

1. A substitution is indicated or implied on shop drawings or product data submittals without a formal request from the Contractor.
2. Acceptance will require substantial revision of Contract Documents.
3. In judgment of the Architect, the substitution request does not include adequate information necessary for a complete evaluation.
4. Requested directly by a Subcontractor or supplier.

F. Substitutions for Convenience: Not allowed.

G. Do not order or install substitute products without recommendation of the Architect and acceptance by the Owner/Using Agency.

H. Architect will determine acceptability of proposed substitutions.

I. No verbal or written approvals other than by Change Order will be valid.

1.3 CONTRACTOR'S REPRESENTATION

A. In making formal request for substitution the Contractor represents that:

1. The proposed product has been investigated and it has been determined that it is equivalent, or superior, in all respects to the product specified.
2. The same warranties or bonds will be provided for the substitute product as for the product specified.
3. Coordination and installation of the accepted substitution into the Work will be accomplished and changes as may be required for the Work to be complete will be accomplished.
4. Claims for additional costs caused by substitution which may subsequently become apparent will be waived by the Contractor.
5. Complete cost data is attached and includes related costs under the Contract, but not:

a. Costs under separate contracts.
b. Architect's costs for redesign or revision of Contact Documents.

1.4 REQUEST FOR SUBSTITUTION FORM

A. 01 62 04.1 – Substitution Request Form

B. Substitutions will be considered only when the substitution form is completed and included with the request for substitution submittal and back-up data.

2. PRODUCTS

(NOT APPLICABLE)

3. EXECUTION

(NOT APPLICABLE)

END OF SECTION 01 62 04

SECTION 01 62 04.1 – REQUEST FOR SUBSTITUTION FORM

REQUEST FOR SUBSTITUTION FORM

Note: Use separate form for each material, product, or equipment item.

Date: _____ Request No.: _____

Project: _____

Location: _____

Name of material, product, or equipment item submitted as substitution:

_____

Name of material, product, or equipment item specified:

_____

Specification Section _____, Article _____, Paragraph_____

Qualities that differ from specified product or system: _____

_____

_____

_____

_____
Name of Manufacturer/(Fabricator):

_____
Address

_____ (_____) _____
City, State, and Zip Telephone

_____

Lake Land College
Woman's Locker Rooms

Name of Vendor/Supplier

_____

Address

_____ (_____) _____

City, State, and Zip Telephone

Reason for requesting substitution: _____

_____

_____

Substitution affects other materials or systems, such as dimensional revisions, redesign of structure, or modifications to other work:

_____ No

_____ Yes; describe requirements:

_____

_____

_____

If substitution requires modifications to dimensions indicated on drawings, are such modifications clearly indicated on attached data?

_____ Yes

_____ No; if no, explain: _____

Substitution has an effect on construction schedule:

_____ No

_____ Yes; describe effect on schedule:

_____

_____

_____

Savings or credit to Contract Amount for accepting substitute:

_____

_____Dollars ($_____)
Written Amount Amount in Figures

The attached data is furnished herewith for evaluation of the substitution:

Product Data _____, Drawings _____, Samples _____, Tests _____, Reports _____

Other Information _____

The undersigned hereby certifies:

1. The proposed substitution has been fully investigated and is equal or superior to specified product.

2. The same or better warranty will be furnished for proposed substitution as for specified material, product or equipment.

3. All changes in the work resulting from the use of this substitution, if approved, will be coordinated and completed in all respects and all costs, including, but not limited to, those for additional services rendered by the Architect are the responsibility of this Contractor at no additional cost to the Contract.

_____ _____
Contractor Signed by

_____
Address

_____
City, State, and Zip

For Use by Architect:
____Recommend
____Not Recommended
____Insufficient Data
____Recommend as Noted
____Received Too Late

By:_____
Date: _____

For Use by Owner:
____Approved
____Not Approved
____Approved as Noted

By: _____
Date: _____

END OF FORM

SECTION 01 66 00 - STORAGE AND PROTECTION

1. GENERAL

   A. REQUIREMENTS INCLUDE

      1. General Contractor make arrangements with Owner for storage of materials and equipment to be installed in project. Protection and security for stored materials and equipment, on and off site is solely contractor's responsibility.

   B. OFF-SITE AUTHORIZATION. Payment for materials/equipment stored off-site will be permitted only on prior written authorization, proof of insurance is submitted, and the material is stored in an independent warehouse under the owner's name and paid for by the contractor.

   C. SUBMITTALS.

      1. In accordance with Section 01 33 23, submit:

         a. Request for allocation of storage space.
         b. List of materials and equipment to be stored.
         c. Proposed location for storage.
         d. Special storage requirements.
         e. Schedule of anticipated storage dates.

2. PRODUCTS

   A. PROTECTIVE MATERIALS

      1. For duration of storage period, provide materials which will provide proper protection against the elements or other harmful environmental conditions.

3. EXECUTION

   A. LOCATION

      1. Where authorized by Owner.

      2. Contractor will resolve conflicts in storage requirements of all subcontractors.

   B. PROTECTION

      1. Appropriate protection is required as necessary to maintain quality and intent of stored materials.

END OF SECTION 01 66 00

SECTION 01 73 29 - CUTTING AND PATCHING

1. GENERAL

1.1 REQUIREMENTS INCLUDE

A. Unless noted otherwise, each contractor shall:

1. Execute cutting (including excavating), filling or patching of work to:

   a. Install specified work.
   b. Remove samples of installed work specified for testing.
   c. Remove and replace defective work.

2. In addition, upon written instructions of Architect/Engineer:

   a. Uncover work to provide for observation of covered work.
   b. Remove samples of installed materials for testing.
   c. Remove work to provide for alteration of existing work.

3. Do not cut or alter work of another contractor without written consent of Architect/Engineer.

1.2 SUBMITTALS

A. Prior to cutting which affects structural members or work of another contractor, submit written notice to Architect/Engineer requesting consent to proceed with cutting, including:

1. Project identification.
2. Description of affected work.
3. Necessity for cutting.
4. Effect on other work, on structural integrity of project.
5. Description of proposed work. Designate:

   a. Scope of cutting and patching.
   b. Contractor and Crafts to execute the work.
   c. Products proposed to be used.
   d. Extent of refinishing.

6. Alternatives to cutting and patching.
7. Designation of party responsible for cost of cutting and patching.

B. Prior to cutting and patching done on instruction of Architect/ Engineer, submit cost estimate.

C. When conditions of work, or schedule, indicate change of materials or methods, submit recommendation to Architect/Engineer, including:

1. Condition indicating change.
2. Recommendation for alternative materials or methods.
3. Submittals specified for substitutions.

D. Submit written notice to Architect/Engineer, designating time work will be uncovered, to provide for observation.

1.3 PAYMENT FOR COSTS

A. Costs caused by ill-timed or defective work, or work not conforming to contract documents, including costs for additional services of Architect/Engineer: Party responsible for ill-timed, rejected or non-conforming work.

B. Work done on instructions of Architect/Engineer (by change order only), other than defective or non-conforming work: Owner

2. PRODUCTS

2.1 MATERIALS. For replacement of work removed: Comply with specifications for type of work to be performed.

3. EXECUTION

3.1 INSPECTION

A. Inspect existing conditions of work, including elements subject to movement or damage during:

1. Cutting and patching.
2. Excavating and backfilling.

B. After uncovering work, inspect conditions affecting installation of new products.

3.2 PREPARATION

A. Prior to cutting:

1. Provide shoring, bracing and support to maintain structural integrity of project.
2. Provide protection for other portions of the project.
3. Provide protection from elements.

3.3 PERFORMANCE

A. Execute fitting and adjustment of products to provide finished installation to comply with specified tolerances, finishes.

B. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs and new work.

C. Restore work which has been cut or removed; install new products to provide completed work in accord with contract documents.

D. Refinish entire surfaces to provide an even finish.

E. Continuous surfaces: To nearest intersection(s).

F. Assembly: Entire refinishing.

END OF SECTION 01 73 29

SECTION - 01 74 13 - CONSTRUCTION CLEANING

1. GENERAL

1.1 REQUIREMENTS INCLUDE

A. General Contractor: Supervise and coordinate cleaning operations.

1.2 RELATED REQUIREMENTS

A. Specified elsewhere:

1. Individual Specification Sections: specific cleaning for product or work.
2. Section 01 35 16 – Remodeling Project Procedures

2. PRODUCTS

2.1 EQUIPMENT

A. As designated in individual specification sections.

3. EXECUTION

3.1 CLEANING

A. As designated in individual specification sections.

3.2 DISPOSAL

A. Maintain individual disposal units for sorting of debris for recycling and general disposal.

B. Properly dispose of all contents of dumpsters off site in an environmentally friendly manner and in compliance with local, state and federal regulations.

C. No burning of debris or materials is acceptable on site.

D. All hazardous materials shall be disposed of off-site in an EPA approved facility.

END OF SECTION 01 74 13

SECTION - 01 74 23 - FINAL CLEANING

1. GENERAL

1.1 REQUIREMENTS INCLUDE

A. General Contractor: Provide final cleaning:

1. At completion of work, or at such other times as directed by the Contractor, remove all waste, debris, rubbish, tools, equipment, machinery and surplus materials. Clean all sight exposed surfaces; leave work clean and ready for occupancy.

1.1 RELATED REQUIREMENTS

A. Specified elsewhere:

1. Section 01 74 13 - Construction Cleaning.

2. PRODUCTS

2.1 All products shall be environmentally friendly “Green” cleaning products.

3. EXECUTION

3.1 FINAL CLEANING

A. Employ experienced workmen for final cleaning.

B. Remove grease, dust, dirt, stains, labels, fingerprints, protection and other foreign materials from sight-exposed finished surfaces; polish surfaces so designated to specified finish.

1. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed surfaces, and of concealed spaces to ensure performance.

C. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.

D. Contractor soft broom clean all exposed concrete surfaces clean; other paved areas with soft or stiff broom as directed. Rake clean other surfaces on grounds.

E. Contractor to replace air handling filters at completion of cleaning and just prior to Owner occupancy.

F. Contractor to maintain finally cleaned areas until project, or designated portion thereof, is accepted by A/E.

END OF SECTION 01 74 23

SECTION 01 78 36 - WARRANTIES & BONDS

1. GENERAL

1.1 REQUIREMENTS INCLUDE

A. Each Contractor shall warrant their work in accordance with the Standard Documents for Construction. In addition, the following Warranties and Bonds shall be provided as specified.

B. Champaign County will be the designated agent during the warranty period.

2. PRODUCTS

A. Warranties and Bonds. Include the following:
   1. Warranty and/or bond.
   2. List of circumstances and conditions that would affect validity of warranty or bond.

3. EXECUTION (NOT APPLICABLE)

END OF SECTION 01 78 36

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Selective demolition of building elements indicated and specified, and as required for installation of new work required for the completion of the project.

1.2 RELATED REQUIREMENTS

A. Section 02 82 14 - Asbestos Abatement - Interiors

B. Section 02 83 19 - Lead-Based Paint Abatement

C. Section 02 86 13 - Hazardous and Universal Waste Management

1.3 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

B. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; 2011.

1.4 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them in accordance with Division 31 Sections, unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Detach items from existing construction, where indicated, and deliver them to Lake Land ready for reuse.

C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed, and salvaged, or removed and reinstalled.

1.5 ADMINISTRATIVE REQUIREMENTS

A. Contractor to confirm abatement of hazardous materials and asbestos containing materials prior to demolition activities.

B. Preinstallation Meeting: Conduct a preinstallation meeting at least one week prior to the start of the work of this section.

1. Ensure required submittals have been provided with sufficient time for review prior to scheduling the Preinstallation Meeting.
2. Review the detailed requirements for the work of this section and to review the drawings and specifications for this work
    a. Require attendance by all affected installers including but not limited to
        1) Contractor's Superintendent
        2) Installer
        3) Manufacturer/Fabricator Representative
        4) Other affected Subcontractors
        5) Architect/Engineer of Record
        6) Lake Land's Representative
3. Review the scope of work, inspect, and discuss condition of construction areas to be selectively demolished.
4. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
5. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
6. Review areas where existing construction is to remain and requires protection.
7. Record minutes and distribute copies within 5 days after meeting to participants as well as Architect/Engineer of Record, Lake Land and those affected by decisions made.

1.6 SUBMITTALS

A. See Section 01 33 23 – Shop Drawings, Product Data & Samples

B. Schedule of Selective Demolition Activities: Indicate the following:
1. For purposes of Lake Land's information only, sequence of selective demolition and removal work, with starting and ending dates for each activity as well as shift starting and ending times. Ensure Lake Land's on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Locations of proposed dust- and noise-control temporary partitions and means of egress.
5. Coordination of Lake Land's continuing occupancy of portions of existing building and of Lake Land's partial occupancy of completed Work.
6. Means of protection for items to remain in the building and items in path of waste removal from building.
7. Path of waste removal from building and locations of waste containers.

C. Predemolition Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, that might be misconstrued as damage caused by building demolition operations. Submit before beginning work on this section.

D. Inventory: After demolition is complete, submit a list of items that have been removed and salvaged for Lake Land.

E. Landfill Records: Provide disposal receipts and acceptance of wastes from the permitted Subtitle D Landfill to Lake Land's Representative.

1.7 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Company specializing in the type of work required.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

1.8 FIELD CONDITIONS

A. Conditions existing at the time of inspection for bidding purposes will be maintained by Lake Land insofar as practicable.
   1. Before selective demolition, Lake Land College will remove the following items:
      a. Owner will remove the following items:
         1) Owner to remove projector screen
         2) Owner to remove bench
         3) Owner to remove marker boards
         4) Owner to remove lockers

PART 2 - PRODUCTS -- NOT USED

PART 3 - EXECUTION

3.1 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of the public.
   1. Obtain required permits.
   2. Comply with applicable requirements of NFPA 241.
   3. Use of explosives is not permitted.
   4. Verify that area to be demolished is vacated and use discontinued prior to the start of the Work.

B. Take precautions to prevent catastrophic or uncontrolled collapse of existing construction being removed and to remain do not allow worker or public access within range of potential collapse of unstable construction.
   1. Engage a demolition engineer to perform an engineering survey of existing conditions 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 building demolition operations.
   2. Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction and finishes to remain. Strengthen or add new supports when required during progress of demolition

C. Lake Land will occupy portions of the building immediately adjacent to selective demolition area(s). Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   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.

D. Provide, erect, and maintain temporary barriers and security devices necessary for execution of the work and to protect Lake Land's property and operations. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 01 56 00 - Temporary Facilities and Controls – Renovation.

E. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
1. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

F. Start work under this section only after asbestos and/or hazardous materials have been removed in accordance with Related Sections.

G. If hazardous materials are discovered during removal operations, notify Lake Land's Representative. Start of operations will be evidence of acceptance that environmental conditions have been remedied in accordance with applicable Division 2 and Division 31 Sections, and Environmental Manual.

H. Perform demolition in a manner that maximizes salvage and recycling of materials.

3.2 EXISTING UTILITIES

A. Maintain existing utilities required to remain in service and protect them against damage during selective demolition operations.

B. Maintain existing fire-protection facilities in service during selective demolition operations.

C. Inspect the facility for the presence of special systems that must be maintained operational during demolition in the presence of the Lake Land. Such systems include security systems, access control systems, fire and smoke detection and alarm systems and communication systems.
1. Develop a strategy with the Lake Land to maintain such systems operational during alterations including temporary re-working, unavoidable downtime, acceptable discontinuation of service intervals and contingencies for notification of involved agencies.
2. Instruct every Subcontractor as to the procedures to be followed and supervise the process to ensure implementation.
3. Restore such systems and extend them into the altered area.
4. Include all services and materials necessary to maintain special systems in the Contract Sum.

D. Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
1. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
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.

3.3 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and coordinate 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/Engineer of Record.

E. Record existing conditions by use of preconstruction photographs and preconstruction videotapes.
   1. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.4 SELECTIVE DEMOLITION

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect/Engineer of Record before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Remove existing work as indicated on drawings and as required to accomplish new work. Remove existing construction only to the extent required by new construction.

C. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch as specified for patching new work.
   5. Where possible 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.

D. Use methods required to complete the selective demolition 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.
   a. Maintain adequate ventilation when using cutting torches.
5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site at a permitted Subtitle D landfill facility.
6. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
7. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
8. Dispose of demolished items and materials at a permitted Subtitle D landfill promptly.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

B. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

C. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI (RWP) .
   1. Remove residual adhesive and prepare substrate for new floor coverings by one of the methods recommended by RFCI (RWP).

D. Air-Conditioning Equipment: Remove equipment without releasing refrigerants.

3.6 MANAGEMENT OF DEMOLISHED MATERIALS

A. Separate recyclable demolished materials from other demolished materials to the maximum extent possible. Separate recyclable materials by type.
   1. Provide containers or other storage method for controlling recyclable materials until they are removed from Project site.
   2. Stockpile processed material on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
   3. Stockpile materials away from demolition area. Do not store within drip line of existing trees to remain.
   4. Store recyclable and salvaged components off the ground and protect from the weather.

B. For items indicated to be Removed and Salvaged:
   1. Clean salvaged items.
   2. Pack or crate items after cleaning. Identify contents of containers.
   3. Store items in a secure area until delivery to Lake Land.
   4. Transport items to storage area designated by Lake Land.
   5. Protect items from damage during transport and storage.

C. For items indicated to be Removed and Reinstalled:
   1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
   2. Pack or crate items after cleaning and repairing. Identify 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. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

3.7 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site immediately. Legally dispose of non-recyclable debris, and other materials resulting from demolition operations in accordance with Division 31 Sections as applicable.

B. Burning of removed materials will not be permitted on the site.

C. Sale of removed materials will not be permitted on the site.

D. Leave site in clean condition, ready for subsequent work.

E. Clean up spillage and wind-blown debris from public and private lands.

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

END OF SECTION 02 41 19

SECTION 02 82 14 - ASBESTOS ABATEMENT - INTERIORS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. These environmental requirements apply to all Lake Land projects. These specifications apply for all demolition, construction and renovation projects that require the removal and disposal of asbestos containing material from the inside of a building in accordance with all applicable regulations.

B. Asbestos abatement in interior building spaces, covered walkways or porticos connecting buildings, and on outdoor mechanical systems which condition indoor air (such as air handling units, air conditioners, cooling towers, etc.) is governed by rules established by the Illinois Department of Public Health (IDPH). These specifications address or reference the requirements for complying with IDPH, OSHA, and EPA NESHAP asbestos rules. Each and every rule requirement may not be restated in detail since trained, accredited, and licensed Contractors and individuals are required for this work and are presumed to be familiar with the relevant laws and rules. Full regulatory compliance is required, and is a part of the contract, whether specifically stated herein or not.

C. Exterior building spaces are not subject to IDPH rules unless the abatement procedures involve interior spaces of the building. Roofing, exterior transite sheeting, asbestos siding, asbestos-containing paint, caulking, glazing, flashings, cements, or other products installed on the building exterior are subject to OSHA and NESHAP rules which, in many cases are less rigorous than IDPH requirements. Abatement of these items is specified in separate, related specification sections.

1.02 DEFINITIONS

A. In addition to the terms listed below, all definitions in the laws and regulations specified elsewhere in the specifications are incorporated by reference, whether or not restated herein.

B. Abatement Contractor (AC): the entity responsible for performing the work in the specifications and has the training and accreditation to competently perform the work. This entity shall obtain and maintain licenses required for the indoor work in the specifications.

C. Architect on Record (AOR): any person or firm employed by Lake Land for the purpose of designing the project.

D. Asbestos Abatement Supervisor (Supervisor): any person who supervises asbestos abatement workers. This person must be trained, accredited, and meet OSHA competent person criteria for asbestos abatement.

E. Lake Land: Owner of the property and the authority ordering the work specified herein.

F. Lake Land Representative: the entity responsible for overall project coordination and completion.

G. Competent person: one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f): in addition, for roofing materials (considered Class II work) who is specially trained in a training course which meets the criteria of EPA's Model Accreditation Plan (40 CFR 763) for supervisor, or its equivalent.

H. Contractor: the entity responsible for performing the complete scope of work in the Documents. The Contractor may elect to self-perform or subcontract out any portion of the work.

I. Managing Environmental Consultant (MEC): the entity with overall responsibility for the environmental aspects of the project, including design, organization, direction, and control as well as investigations, assessments and on-site supervision of project managers.

J. Environmental Project Manager (EPM): the project manager selected by the MEC to perform environmental monitoring and act on behalf of the MEC for Lake Land on the project.

K. HEPA Filter: a High Efficiency Particulate Air filter capable of trapping 99.97% percent of particles greater than 0.3 micrometers in mass median aerodynamic equivalent diameter.

L. IDPH: the Illinois Department of Public Health.

M. OSHA: the federal Occupational Health and Safety Administration.

N. Plasticize: to apply plastic sheeting over surfaces or objects to protect them from contamination or water damage.

O. Personal Protection Equipment (PPE): the protective suits, head and foot covers, gloves, respirators and other items used to protect persons from asbestos or other hazards.

P. RCRA: the Resource Conservation and Recovery Act and associated regulations.

Q. SDS: Safety Data Sheets, required by OSHA for any chemical in the workplace that that could be expected to cause an exposure to workers during normal use or in emergency situations.

R. TCLP: the Toxicity Characteristic Leaching Procedure as specified in EPA 530/SW-846, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods 3rd edition, November 1986.

S. Work: the obligations of the Contractor under the Contract Documents. Work includes, unless specifically excepted by the Contract Documents, the furnishing of all materials, labor, equipment, supplies, plant, tools, scaffolding, transportation, superintendence, permits, inspections, occupancy approvals, insurance, taxes, and all other services, facilities and expenses necessary for the full performance and completion of the requirements of the Contract Documents. Work also means that which is furnished, produced, constructed, or built pursuant to the Contract Documents.

T. Work Area: the area or areas where asbestos abatement is being conducted.

U. Work Site: the room or rooms undergoing lead abatement activities. All closets/book rooms/coat hanger rooms/vestibules/washrooms within a room are considered part of the Work Site in which abatement work has been identified on the Drawings, whether or not they are numbered separately.

1.03 SCOPE OF WORK

A. **IT IS NOT ANTICIPATED THAT THIS PROJECT WILL ENCOUNTER AN ASBESTOS CONTAINING MATERIALS (ACM) ON THE INTERIOR OF THE BUILDING IN THE ROOMS WHERE SCOPE IS DEPICTED IN THE CONTRACT DOCUMENTS. THE PLUMBING SCOPE REQUIRES THAT ONE THREE INCH VENT BE ROUTED THROUGH THE ROOF WHERE THERE IS AN EXISTING 4" VTR INTO WHICH THE NEW WORK SHOULD TIE. IF, HOWEVER, A NEW CORE IS NEEDED THROUGH THE ROOF FOR ANY REASON, IT IS**

SUSPECTED THAT THE EXISTING ROOF DECK CONTAINS ASBESTOS AND SPECIFICATION SECTION 02 82 14 WOULD CONTROL THAT SCOPE OF WORK.

B. Refer to Contract Drawings and Environmental Scope Sheets in Section 02 41 19.

C. The Work includes all labor, equipment, materials, and supplies necessary to perform the Scope of Work in the bid documents by the procedures described herein. The Contractor, by submitting a bid for the Work, represents itself as knowledgeable and expert in the performance of the Work, and includes all things usually and customarily necessary to provide a complete and finished job, whether specifically mentioned or not.

D. Removal of friable and non-friable asbestos-containing materials listed in the bid documents, including pre-cleaning, moving of furnishings, establishing regulated areas, isolating the Work Areas, protection of adjacent areas, containment when required, cleanup and decontamination to the specified clearance levels, proper packaging and disposal of wastes, and all other steps necessary to complete the scope of work.

E. Repair or replacement of damaged surfaces, fixtures, or furnishings to restore them to their pre-existing condition to the satisfaction of the Architect of Record and Lake Land Representative.

F. When the bid documents include lead and asbestos abatement items in the same spaces, they should be performed in the sequence and combinations that produce the most efficient results, minimize concentrated lead waste volume, and produce the least amount of total waste. That sequence will generally be:
   1. Cleanup of lead dust, flakes, chips, and residues most likely to fail a TCLP test. If both lead and asbestos debris are present and mixed together, they may be cleaned up and disposed together.
   2. Cleanup and removal of failed or delaminated friable asbestos-containing debris, if any.
   3. Removal of friable asbestos materials and cleanup of visible residues.
   4. Removal of lead-bearing architectural components.
   5. Removal of non-friable asbestos items. If both asbestos and lead are on the same components, for example lead paint and asbestos-containing glazing compound, the components may be removed and disposed with both the lead and asbestos-bearing items intact.
   6. Removal of lead-based paint, coatings, or surfacing material.
   7. Final cleanup and decontamination of the work space. Final air clearance (asbestos) and wipe samples (lead) may be performed concurrently.
   8. When lead and asbestos final decontamination processes are combined, the more stringent cleanup procedures shall apply for both.
   9. Waste disposal:
      a. Hazardous waste: loose paint flakes, chips, and dust; lead-specific cleaning supplies; contaminated soil; combined final decontamination supplies; disposable suits, gloves, head covers, and foot covers; other items that fail a TCLP or other RCRA test.
      b. Special waste: friable asbestos-containing waste materials and lead-contaminated waste that has passed TCLP or other RCRA tests.
      c. Construction and Demolition (C&D) debris: lead-bearing architectural components; concrete and lumber with or without tile or mastic attached; demolition debris, and other general wastes.
      d. All asbestos-containing or lead-bearing wastes, regardless of classification, shall be disposed in a landfill approved by the IEPA to accept asbestos-containing or lead-bearing waste materials.

G. Compliance with all applicable laws, regulations, standards, and these specifications. In the case of a conflict, the Contractor shall comply with the most stringent.

H. Contractor is required to fully comply with IDPH rules and these specifications unless a variance is granted by IDPH. Any variances obtained by the MEC will be listed in the bid documents.

I. All licenses, accreditations, permits, fees, notifications, reports, or other documents required by law, regulation, this specification, or the bid documents.

J. Provide project closeout documentation to the APM within thirty (30) days after final clearance. This documentation shall include, but is not limited to, submittals specified elsewhere in the specifications.

1.04 LAWS, REGULATIONS AND STANDARDS

A. The following laws, regulations, and standards are incorporated by reference:
1. 105 ILCS 105: Illinois Asbestos Abatement Act
2. 77 Ill. Adm. Code 855: Asbestos Abatement for Public and Private Schools and Commercial and Private Buildings in Illinois
3. 29 CFR 1910: US OSHA General Industry Standards
4. 29 CFR 1926: US OSHA Construction Standards
5. 29 CFR 1926.1101: US OSHA Asbestos Construction Standards
6. ASHARA: US EPA Asbestos School Hazard Abatement Reauthorization Act
7. 40 CFR Part 61: US EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP), 11/90 revision
8. 40 CFR 763 Subpart E: US EPA Asbestos Hazard Emergency Response Act (AHERA) Rules
9. 40 CFR 763 Subpart E: US EPA Asbestos Model Accreditation Plan (MAP): Appendix C-Interim Final Rule
10. 11-4-2150 Environmental Standards related to demolition, renovation, asbestos abatement and maintenance, sandblasting, chemical washing, and grinding of buildings or other structures

1.05 ASSESSMENT, MONITORING, TESTING AND ANALYSIS

A. The MEC will perform inspection, testing and design services prior to the start of Work, and during the project, and will perform testing, inspection, and monitoring services during the Work and upon its completion:
1. Prior to the start of the Work, the MEC shall:
    a. Identify suspect materials and confirm their asbestos content through review of the school's management plan or by testing.
    b. Design the project and address any design changes if requested by the AOR/Lake Land Authorized Representative.
    c. Collect background air samples before conditions are disturbed. Background samples will be analyzed by Phase Contrast Microscopy (PCM).
    d. Review and approve the pre-abatement submittals submitted by the AC.
2. During the Work, the MEC shall:
    a. Enter the Work Area at least every two hours to inspect the Work procedures and Work Area integrity.
    b. Maintain a daily log to record the day's events, problems, corrective actions.
    c. Collect air samples inside and outside the Work Area, and in the breathing zone of representative persons.
    d. The MEC will stop the Work if airborne asbestos concentrations outside the Work Area exceed 0.01 f/cc or the background sample levels, whichever is higher. The Work may

restart when the source of fiber release has been identified and corrected. Contractor shall be responsible for cleaning and decontaminating the outside area if caused by the asbestos abatement activities.

e. Observe/document smoke testing of the containment by the Contractor.
f. Review original worker licenses and maintain weekly submittals from the AC.
g. Notify the MEC's project designer if design changes are needed before execution.

3. Upon completion of the Work, the MEC shall:
   a. Inspect for visible debris. Contractor shall be required to re-clean the area or portions of areas until no visible debris remains and the Work Area is dry.
   b. Perform aggressive clearance testing by Transmission Electron Microscopy (TEM) when the ACM in a Work Area is 260 linear feet, 160 square feet, or 35 cubic feet of volume or more, as required by AHERA and IDPH Section 855.170. The sample set shall include at least 5 inside samples, 5 outside samples, 2 field blanks and 1 sealed blank. Note: Large complicated, or multi-floor contiguous Work Areas connected by corridors, stairways, or other connections shall be tested using additional inside the Work Area samples. For clearance of multiple mini containments containing a total removal quantity greater then160 square feet or 260 linear feet, a combined PCM/TEM final clearance procedure may be used. The first part of the procedure shall involve the collection and analysis of one PCM sample from within each mini containment. The second part shall involve the collection and analysis of five (5) TEM samples within the mini containments having the highest PCM analysis results. If there are five or fewer mini containments to be sampled, then only TEM sampling shall be conducted. A minimum of five (5) TEM samples shall be collected. All requirements of 40 CFR 763 Subpart E, Appendix A shall apply.
   c. Perform aggressive clearance testing by PCM when the ACM in a Work Area is less than 260 linear feet, 160 square feet, or 35 cubic feet of volume.
   d. Collect and analyze samples in accordance with AHERA Appendix A procedures and IDPH rule section 855.470.
   e. Prepare and submit the IDPH "Project Manager's Summary Report Form" within 10 days of final clearance.
   f. Prepare and submit the Project Manager Report to the IDPH within 60 Working days of clearance testing. The final Project Manager is responsible for completion of the project report.

B. The Contractor shall provide OSHA compliance air monitoring to determine exposures to its employees in accordance with OSHA 29 CFR 1926.1101. Frequency of testing shall comply with OSHA requirements for the anticipated and actual exposure levels.
   1. A written Exposure Assessment may be provided prior to the start of the Work to determine the requirements for respiratory protection and frequency of OSHA monitoring for each type of activity. The Contractor should note that a Negative Exposure Assessment (NEA) may be possible for many tasks. For interior work, this would allow reduced OSHA monitoring frequency.
   2. Analysis may be performed on site.

C. Credentials required for testing and analysis of PCM final clearance air samples:
   1. Accreditation by AIHA or AAR; or
   2. Participation in the Proficiency Analytical Testing (PAT) program.
   3. Certification of individual qualification to read samples on site when on site analysis is performed.

1.06 SUBMITTALS

A. To CDPH at least 10 working days before commencement of Work:
   1. State of Illinois Demolition/Renovation/Asbestos Project Notification form.

2. Written permission from building Owner authorizing Contractor to commence work

B. To IDPH, IEPA, CDPH, MEC and AOR at least 10 working days before commencement of Work (if required per quantity of materials being abated):
   1. IDPH Asbestos Notification on current form, including inspector license number and landfill permit number.
   2. Written permission from building Owner authorizing Contractor to commence abatement.
   3. Building Owner asbestos abatement notification to building occupants and the Lake Land staff.
   4. School Floor Tile Project Notice, when applicable.

C. To MEC and AOR at least five days prior to commencement of Work:
   1. Documentation of arrangements of transport and disposal, landfill name and location, handling procedures and PPE at the landfill, prepared and signed by the landfill.
   2. Drawings or sketches for layout and construction of isolation barriers and decontamination units.
   3. Respirators: NIOSH approvals and manufacturer certification of HEPA filtration for cartridges.
   4. Manufacturers' certifications that all HEPA vacuums, negative air pressure equipment, and other local exhaust ventilation equipment conform to ANSI Z9.2-79.
   5. Written notifications to rental companies for any rental equipment used.
   6. Results of any performance tests for encapsulants, if applicable.
   7. OSHA Exposure Assessment, if available.
   8. Laboratory and analyst credentials for Contractor OSHA samples.
   9. Safety Data Sheets (SDS) for chemicals used on site.
   10. Work Plan and Schedule.

D. To MEC and AOR on the first day of abatement Work:
   1. Original Contractor, supervisor, and worker licenses along with a copy each.
   2. Initial Course Accreditation and current refresher accreditation for each supervisor and worker.
   3. Physician's Written Opinions for workers and supervisors.
   4. Fit test documentation for all employees, agents.

E. To MEC and AOR weekly during the abatement Work:
   1. Job progress reports detailing abatement activities, progress compared to schedule, problems and actions taken, injury reports, and equipment breakdowns.
   2. Waste Shipment Records.
   3. Work Site Entry logs.
   4. Manometer readable tape for negative pressure differentials for each negative pressure worker enclosure or a log of digital readout.
   5. Filter Change logs for respirators, HEPA vacuums, negative air machines, and other engineering controls.
   6. OSHA compliance air monitoring data.
   7. Worker license and certification log.

F. Prior to beginning Work, the AC shall submit required notifications to applicable regulatory agencies and receive an Owners Authorization and Notice to Occupants from Lake Land for buildings where asbestos abatement will take place. The AC shall provide copies of all regulatory notices to the Lake Land Representative, MEC, and the EPM within 24 hours of sending such notices to the regulatory authority. The AC shall not begin a project until such notices are provided to all parties listed above.

PART 2 - PRODUCTS

2.01 TOOLS AND EQUIPMENT

A. All tools and equipment shall at least conform to minimum industry standards and IDPH regulations.

B. Equipment:
1. Negative Air Machines shall provide HEPA filtration and conform to ANSI Z9.2 fabrication criteria.
2. Respirators shall be NIOSH approved for use with lead, asbestos, or other contaminants anticipated in the Work.
3. Contractor is fully responsible for complying with OSHA rules for other Safety equipment, such as hard hats, safety harnesses, eye protection, gloves, footwear, and any other safety devices used on the site.
4. Pressure differential manometer with readable tape shall be provided by the Contractor, including calibration documentation.

C. Tools:
1. Shovels and scoops shall be rubber or plastic, suitable for use in a plasticized containment. Metal shovels are not permitted.
2. Scrapers, brushes, utility knives and other hand tools shall be of good quality and suitable for the intended uses. The Contractor shall keep an ample supply on hand for the completion of the Work
3. Power tools such as, but not limited to saws, pneumatic chisels, brushes, sanders, and needle guns shall be equipped with shrouds and HEPA-filtered local exhaust systems to capture released particles.
4. Buffers are not permitted.

2.02 MATERIALS

A. All materials shall at least conform to minimum industry standards and IDPH regulations.

B. Installed materials which become a part of the Work such as, but not limited to, encapsulants shall be of good quality, non-lead-bearing, free of asbestos, and conform to the respective reinstallation specification sections prepared by others.
1. Contractor shall ensure that encapsulants and sealants used as primers, basecoats, or covering existing materials are compatible with the respective existing or reinstallation materials and their manufacturers' warranties.
2. Encapsulants for surfaces to which fireproofing shall be applied (beams, columns, floor or roof decks, other structural members) shall be tested and rated as a component of the fireproofing system and listed in the UL Fire Resistance Directory with the specific fireproofing material to be installed.

C. Abatement Materials:
1. Fire-retardant Poly sheeting for all applications shall be 6 mil nominal thickness for critical seals, floors, ceilings and drop cloths, and 4 mil for walls.
2. Tape shall be 2" or 3" duct tape or other waterproof tape suitable for joining poly seams and attaching poly sheeting to surfaces.
3. Spray adhesives shall be non-flammable and free of methylene chloride solvents.
4. Disposal bags shall be 6 mil.
5. Disposable suits, hoods, and foot coverings shall be TYVEK or similar.
6. Solvents shall be compatible with any primers, mastics, adhesives, paints, coatings, or other surfacing materials to be installed following their use.

PART 3 - EXECUTION

3.01 EMPLOYEE TRAINING, QUALIFICATION AND MEDICAL SCREENING

A. Supervisors and Workers shall be trained, accredited, and licensed in accordance with IDPH rules.
   1. Contractor shall keep copies of licenses and most recent annual refresher training certificate at the jobsite at all times for all Contractor personnel.
   2. An IDPH- licensed supervisor (competent person) shall be present at the Work Site at all times when Work under these specifications is being conducted.
   3. Current fit testing documentation.

B. Medical Screening. All Contractor personnel shall have a current medical examination in accordance with OSHA requirements. Copies of the Physician's Written Opinions shall be kept on site.

3.02 PERMISSIBLE EXPOSURE LIMITS

A. The OSHA Permissible Exposure Limit (PEL) for worker exposure to airborne asbestos is 0.1 f/cc as an 8-hour time-weighted average (TWA).

B. The OSHA short term excursion limit for worker exposure to airborne asbestos is 1.0 f/cc for a 30 minute sample.

C. The permissible level of airborne fibers in areas adjacent to the Work Area is 0.01 f/cc or background level, whichever is higher, as determined by PCM.
   1. Work shall immediately cease in any Work Area where the airborne fiber concentrations exceed this level.
   2. The source of outside contamination shall be determined, and corrective measures (e.g. wet cleaning, changes in work practices, negative pressure containment) shall be implemented to prevent recurrence.
   3. The Contractor shall be responsible for cleanup of contamination in adjacent areas caused by the asbestos abatement activities at no additional cost to the building Owner.

3.03 EXPOSURE ASSESSMENT AND MONITORING

A. The Contractor shall make an assessment of the airborne exposures. Assessment shall conform to OSHA requirements and may be based upon:
   1. Initial monitoring of representative workers who the Contractor believes are exposed to the greatest airborne concentrations of asbestos, or
   2. Past monitoring (within the past 12 months) or objective data for conditions closely resembling the processes, type of material, control methods, work practices and environmental conditions to be used for this project, or
   3. In the absence of an exposure assessment, the Contractor shall perform the Work in full negative pressure containment with Type C pressure-demand respirator with auxiliary SCBA escape bottle.

B. The Contractor shall perform personal monitoring in accordance with the following requirements:
   1. Initially, to establish an exposure assessment when past monitoring or objective data are not available for an initial determination.
   2. Periodically if the exposures are, or are expected to be, below the PEL.
      a. Whenever there has been a change of equipment, process, control, personnel, or a new task has been initiated that may affect employee exposures, the exposure assessment shall

be updated, and monitoring shall be reinstituted if exposures are unknown or are expected to exceed the PEL.

3. Daily, if exposures are above the PEL.

3.04 RESPIRATORY PROTECTION

A. Respiratory protection shall be worn by all persons potentially exposed to airborne asbestos fibers from the start of the abatement project until all areas have passed clearance air monitoring, in accordance with all applicable laws, regulations and standards specified elsewhere in the specifications.

B. Contractors must have a respiratory protection program in compliance with all applicable laws, regulations and standards specified elsewhere in the specifications.

3.05 HYGIENE PRACTICES

A. Eating, drinking, smoking, chewing gum or tobacco, and applying of cosmetics are not allowed in the Work Area.

B. All persons entering the Work Area are required to wear appropriate PPE, and follow the entry and exit procedures posted in the Personnel Decontamination Enclosure System.

C. Personal Protection Equipment (PPE) shall include:
1. Full body disposable suits, headgear, and footwear.
2. Gloves.
3. Safety glasses
4. Hardhats.
5. Non-disposable footwear and clothing shall remain in the Work Area and shall be disposed of as contaminated waste when the job is completed.
6. Authorized visitors shall be provided with suitable PPE.

3.06 PROHIBITED ACTIVITIES

A. Dry removal or dry sweeping.

B. Use of compressed air for cleaning.

C. Use of high speed power tools not equipped with a HEPA-filtered local exhaust system.

D. The abatement Contractor shall not execute abatement activities without asbestos abatement design drawings that have been signed by an IDPH licensed Asbestos Designer are on the job site. Any and all changes to containment layout and placement shall not be executed until revised design drawings that have been approved and signed by an IDPH licensed Asbestos Designer are on the job site.

E. Buffers cannot be used to remove mastic.

3.07 WORK AREA ISOLATION AND PREPARATION

A. General Preparation:
1. Post:
a. Caution signs meeting the specifications of OSHA 29 CFR 1926.1101 (k)(6) at any location and approaches to a location where airborne concentrations of asbestos may exceed ambient background levels.

b. Decontamination and Work procedures in equipment rooms and clean rooms.
c. EPA NESHAP asbestos rules (40 CFR Part 61, subparts A & M) in the clean room.
d. OSHA Asbestos Construction Standards (29 CFR 1926.1101) in the clean room.
e. Entry and Exit Log.
f. List of telephone numbers in the clean room for:
1) Local hospital and/or local emergency squad.
2) School security office (if applicable).
3) Owner representative reachable 24 hours per day.
4) Contractor's headquarters.
5) Architects or consultants directly involved in the project.

2. Secure the Work Area from entry by unauthorized persons.
3. Separate Work Areas from Occupied Areas.
a. Seal off all doorways and corridors which will not be used for passage during Work.
b. Install IDPH required separation barriers per section 855.430 (a) in all openings larger than 4 ft by 8 ft, consisting of wood or metal framing, a sheathing material such as plywood or drywall at least 5/8" thick on the work side, and double-layer 6-mil poly, both sides. Edges shall be caulked at the floor, ceiling, walls, and fixtures to form an air-tight seal.
c. If the school is not totally occupied (see Section 855.430), the sheathing material may be omitted.
4. Separate Occupied areas from Secured Areas.
a. Install IDPH barriers per section 855.430 (b).

B. Interior Preparation:
1. Shut down and lock out electric power to all Work Areas. Provide temporary power from an outside source with ground-fault circuit interrupter (GFCI) at the source.
2. Shut down and isolate heating, cooling, and ventilating air systems. Remove HVAC filters, package and dispose as asbestos waste.
3. Pre-clean movable objects with HEPA vacuums or wet cleaning and remove from the Work Area to a location designated by the MEC where friable ACBM is involved.
4. Pre-clean fixed items which must remain in the Work Area with HEPA vacuums or wet cleaning where friable ACBM is involved.
5. Wrap all fixed objects and equipment which will remain in the Work Area with a minimum of one layer of six mil poly.
6. Remove/protect carpeting per environmental scope sheets.
7. Pre-clean the Work Area with HEPA vacuums or wet cleaning.
8. Seal off all windows, corridors, doorways, skylights, ducts, grilles, diffusers, and other penetrations or openings in walls, ceilings and floors with 6-mil poly and tape.
9. Cover floors with two layers of fire-retardant 6-mil poly with seams staggered and taped, and extending 12" up walls. Cover walls with two layers of 4-mil poly, with each wall poly overlapping each floor poly layers by 12".
10. Asbestos materials shall not be disturbed during the preparation phase.
11. Suspended ceilings shall remain in place until preparation phase is complete. Remove/protect ceiling tile per environmental scope sheets.
12. Maintain emergency and fire exits.
13. Install a five chamber Worker Decontamination Enclosure System, consisting of clean room, shower room, and dirty room separated by airlocks at least 3' wide, all with curtained doorways, of sufficient size to serve the size of the crew, and with all features required by IDPH rules.
a. Where a remote decon unit is used (i.e. non-friable ACBM and TSI glove-bag operations), the AC shall:
1) Set up the decon unit within the Work Area barriers.

2) Establish a negative pressure of at least 0.02” water column (wc) between the dirty room and adjacent spaces, including the clean room.
3) Provide at least 4 air changes per hour within the decon unit.
4) Use a double suiting procedure where the workers proceed to the Work Area exit, HEPA-vacuum gross debris from their persons using a "buddy system” put on a clean suit (either over their dirty suit or after removing the dirty suit), assure that their footwear are free of ACM contamination, and follow a designated path to the remote decon unit.
5) Once in the decon unit, follow normal decontamination procedures.

14. Install an Equipment Decontamination Enclosure System, consisting of a washing station and a holding area, with curtained doorways and a lockable door.
15. Maintain a negative pressure of at least 0.02” water column (wc) between each contained area and adjacent spaces 24 hours a day using negative air machines vented to the outside, from the start of abatement work to final clearance. Backup negative air machines shall be available onsite in case of machine failure.
16. Once operational, the system shall be inspected daily with smoke tubes by the Contractor. Damages and defects shall be repaired immediately upon discovery.

C. Exterior Preparation (for areas that interface with interior work):
1. 6 mil plastic sheeting shall be placed over the ground, foundation, or other surfaces below the abatement area.
2. Unauthorized entry shall be prevented by using appropriate barriers, such as warning tape, fencing, or other suitable barriers.
3. Nearby air intakes, grilles, and other openings into the building interior shall be sealed off with poly and tape.
4. The Contractor shall be responsible for cleanup of any adjacent areas that become contaminated as a result of the abatement activities at no additional cost to the building Owner.

3.08 ABATEMENT PROCEDURES

A. Removal:
1. Asbestos materials shall be adequately wetted and kept adequately wet during removal.
2. ACM waste shall be bagged or containerized as it is removed.
3. Work Areas shall be kept wet until visible material is cleaned up.

B. Encapsulation:
1. Damaged or missing areas of existing materials shall be repaired with non-asbestos substitutes, where appropriate.
2. Loose or hanging ACM shall be removed using appropriate removal procedures.
3. Bridging encapsulants shall be applied in accordance with manufacturer’s instructions.
4. Penetrating encapsulants shall be applied to penetrate existing materials to the substrate.
5. Encapsulants shall be applied with airless spray equipment.
6. Encapsulated ACM shall be labeled as asbestos to prevent future unprotected disturbance.

C. Enclosure:
1. Locations where openings for hangers, supports, framing, or other attachments must be made in the ACM must be misted with water and kept damp to reduce airborne fiber release. Tools used to drill, cut, or otherwise disturb the ACM during attachment installation shall be equipped with a HEPA-filtered local exhaust system.
2. Loose or hanging ACM shall be removed using removal procedures.
3. Damaged areas shall be repaired with non-asbestos materials.

4. Utilities or other items requiring access shall be relocated outside of the enclosure area. Once enclosures are installed, they shall not be opened or disturbed.
5. Enclosure materials shall be impact resistant and provide an airtight barrier.
6. Enclosures shall be labeled that they contain asbestos materials to prevent future unprotected disturbance.

3.09 CLEANING AND DECONTAMINATION

A. Cleaning and decontamination of abatement areas, excluding glove-bag areas, are as follows:

B. All visible accumulations of ACM, debris, tools, and unnecessary equipment shall be removed from the Work Area.

C. First clean:
1. Wet clean all surfaces and remove excess water.
2. Wait 12 hours before proceeding further to allow dust and fibers to settle.
3. Remove outer layer of poly and dispose as ACM waste.
4. Completion of First Clean shall be determined and documented by the MEC.

D. Second clean:
1. Wet clean all surfaces and remove excess water.
2. Wait 12 hours before proceeding further to allow dust and fibers to settle.
3. Remove inner layer of poly and dispose as ACM waste.
4. Critical barriers on windows, doors, penetrations, and other openings shall remain in place and negative air system shall remain in continuous operation until final clearance tests have passed.
5. Completion of Second Clean shall be determined and documented by the MEC.

E. Third clean:
1. Wet clean all surfaces and remove excess water.
2. Wait 12 hours before proceeding further to allow dust and fibers to settle.
3. Remove all tools, cleaning materials, remaining wastes from the Work Area. Tools and equipment shall be cleaned before removal.
4. Third Clean shall be determined and documented by the MEC.

F. Visual inspection: MEC and Contractor shall jointly inspect the Work Area for visible residue and excess water and, if observed, repeat the clean/12 hour wait cycle until residues are not detected and Work Area is dry.

G. Apply lock-down encapsulants where specified in the bid documents.

H. MEC will inform AC if the Work Area is ready for final clearance testing.

3.10 FINAL CLEARANCE

A. Final clearance testing (aggressive methods) shall be performed after 12 hours have lapsed since the final cleaning, and when visual inspection has been completed and no visible water or condensation remains.

B. Work Areas with 260 linear feet or 160 square feet or more of ACM shall be tested using aggressive sample collection methods and TEM analysis, as required by AHERA and IDPH Section 855.170. The sample set must include at least 5 inside samples, 5 outside samples, 2 field blanks, and 1 sealed blank. NOTE: Large, complicated, or multi-floor contiguous Work Areas connected by corridors, stairways, or

other connections may be tested with a larger “inside” sample set rather than full, multiple TEM tests, so long as the inside sample distribution is reasonably representative of the Work Area conditions.

C. Work Areas with less than 260 linear feet or 160 square feet may be tested using aggressive sample collection methods and analyzed by PCM.

D. If final clearance test(s) fail, the AC is responsible for repeating the cleaning sequence as necessary until final clearance tests are successful. All expenses associated with the collection and analysis of additional final clearance tests are the responsibility of the AC.

3.11 SPECIAL PROCEDURES:

A. Less stringent requirements may apply in a number of cases.

B. Variances from IDPH Regulations. Variances may be requested and approved by the IDPH. These less stringent procedures may only be used when they have been requested by the Project Designer and approved by the IDPH on a case-by-case basis.
1. Variances that have been applied for the project will be listed in the bid documents. These variances may or may not be approved by the IDPH.
2. The Contractor is encouraged to request additional variances it believes will be beneficial to the project. Such requests shall be submitted to the Project Designer/MEC as a value engineering proposal which references the IDPH regulation section, describes the procedure variations, includes information which supports the efficacy and benefits of the alternative procedures, and offers appropriate cost savings.
3. Otherwise the Contractor is required to fully adhere to the requirements of this specification. Failure to obtain a variance shall not constitute a change in the requirements of these documents.

C. Operations and Maintenance Procedures where minor areas of ACM must be disturbed for building repairs or require repair in areas of Work, such as drilling holes in walls or floors, cleaning small areas to allow installation of fixtures, smoke detectors, utilities, etc. The bid documents shall state if these procedures are allowed or required for a particular project or task.
1. Submit an asbestos notification to the IDPH for quantities over 3 linear or square feet.
2. Licensed abatement workers are required, but a licensed abatement Contractor is not mandatory for Work less than 3 linear or square feet.
3. Shut down heating, cooling, or ventilating air systems to prevent fiber dispersal to other areas.
4. Seal off openings in the Work Area, including windows, doorways, vents, and other openings with 6 mil poly sheeting and tape.
5. Lay an impermeable drop cloth under the Work Area.
6. Wear appropriate PPE and at least a 1/2 mask APR respirator. Note that OSHA still requires an exposure assessment and respirators that are appropriate for the expected airborne fiber concentrations.
7. Use wet removal methods.
8. Wet clean Work Area, leaving no visible residue.
9. Seal off any frayed ends of material remaining on an active utility or building structure to remain.
10. Package and dispose of asbestos-containing waste as specified in the waste disposal Article of the specifications.

D. Glovebag Procedure. Glove-bags may be used to remove pipe and duct insulation.
1. Normal IDPH Notification requirements apply to quantities of more than 3 linear or square feet.
2. Glove-bag removal shall require a single layer, 6 mil poly tent containment (mini-containment) with negative pressure air filtration.

3. Monitoring will be performed for each contained area by the MEC:
   a. 1 personal sample
   b. 1 area sample
   c. 1 area sample at each negative pressure machine exhaust
4. Glove-bag construction shall be 6 mil poly with seamless bottom, suitable for the intended use (straight runs, fittings, elbows, vertical pipes, etc.) without modification.
5. At least two licensed workers shall perform glove-bag operations.
6. Workers shall wear full body PPE and at least a 1/2 mask APR respirator. Note here, too, that OSHA still requires an exposure assessment and respirators that are appropriate for the expected airborne fiber concentrations.
7. Prior to use, all loose or damaged material adjacent to the operation shall be wrapped in two layers of 6 mil poly or otherwise be rendered intact.
8. Work Practices shall include:
   a. Installation to completely cover the circumference of pipe or other structure. Pipe insulation diameter shall not exceed 1/2 the bag working length above the glove sleeves.
   b. Smoke test for leaks and seal any leaks prior to use.
   c. Glove bag shall be single use and not moved once it is placed.
   d. Wet removal methods on the materials to be removed and wet cleaning to remove all visible ACM from the pipe or structure surfaces.
   e. Not to be used on surfaces having temperatures greater than 1500F.
   f. Spray down the interior surfaces of the bag, substrate, and removed ACM.
   g. First and second cleaning, waiting at least 12 hours following each cleaning.
   h. Wet down remaining ACM surfaces or seal with encapsulant.
   i. Seal off the lower portion of the bag containing the ACM waste by twisting several times and sealing with tape.
   j. Collapse glove-bag with a HEPA vacuum.
   k. Slip a 6 mil poly waste disposal bag over the glove-bag, detach the bag from the pipe, and gooseneck-seal it in the waste disposal bag.
   l. Dispose in accordance with this specification.

E. Resilient Floor Covering. Removal of resilient floor covering shall be performed by, as a minimum, those trained in accordance with OSHA Class 2 requirements, using heat guns, infrared heat machines or other methods that remove the floor covering in whole pieces. Buffing machines may not be used for removal of mastic. The Contractor shall insure that no damage is caused to the area or equipment below the floor. Abatement procedures are as follows:
   1. Submit the Floor Tile Project Notice at least 10 working days prior to the beginning of all asbestos resilient floor covering abatement projects.
   2. Post signs so that the Work Area cannot be entered from any direction without observing a sign.
   3. Isolate the Work Area from areas to remain occupied.
   4. Install barriers of six mil plastic sheeting sealed with duct tape at all openings in the Work Area.
   5. Install a curtained doorway at the entry to the Work Area, lock out electrical power to the room and supply required power with ground fault interruption protected circuits.
   6. Wear, as a minimum, half-faced dual cartridge NIOSH-approved respirators and double disposable suits.
   7. Remove floor covering without causing excessive breakage. Work shall stop and appropriate IDPH design, project management and air sampling will be put in place if excessive breakage occurs.
   8. Dispose of floor covering and debris as asbestos waste.
   9. HEPA vacuum the Work Area thoroughly following completion of the removal.
   10. HEPA vacuum surface of protective clothing and dispose of clothing as asbestos waste.
   11. Personal air monitoring shall be performed by the Contractor in accordance with OSHA.

F. Electrical Wiring Insulation: Removal of the electrical wiring insulation shall be performed by licensed asbestos abatement Contractor under full-containment. This Work is considered gross removal Work. All Work shall be performed in compliance with laws, regulations, and standards specified elsewhere in the specifications. If IDPH approves any variances for this project, they will be provided to the abatement Contractor prior to the start of the project. The abatement shall be performed as follows:
   1. Contractor shall provide submittals as specified elsewhere in the specifications.
   2. The Contractor Supervisor shall inform all abatement workers about electrical safety and require them to work in accordance with all applicable safety requirements while working on and around electrical system components.
   3. Work Area shall be isolated and prepared as per procedures specified in of these specifications.
   4. Contractor shall verify that electrical power to wiring within the Work Area is locked out /tagged out for the duration of the project until final air clearance is achieved. Contractor shall verify that a competent person has de-energized, locked out, tagged out and tested the electrical lines involved in this project to ensure lock out/tag out was successful. Water shall not be sprayed around wiring and/or other electrical system components. Moist rag or mops shall be used as needed. Contractor shall keep Work Area free of any standing water throughout this project.
   5. Disconnect wire at both ends without cutting wire or otherwise disturbing wire insulation. Remove wires intact, by pulling them from one access point (preferably at the panel or switch) and rolling them up directly into an asbestos waste bag (or a glove-bag, where feasible).
   6. HEPA vacuum shall be used continuously while wires are being pulled out, in order to minimize the airborne dispersal of asbestos fibers. Wet rags shall be utilized to moist the wiring insulation as the wire is being pulled out and rolled-up in order to minimize the release of asbestos fibers.
   7. The conduit and other surfaces which were in contact with wires shall be cleaned utilizing HEPA Vacuum. Moist rags/sponges shall be pulled through the conduits so as to clean the conduit surfaces after wires have been pulled out of the conduit.
   8. Cleaning and Decontamination of Work Area shall be performed as specified in of these specifications. Contractor shall keep the Work Area free of any standing water throughout this project. Water shall not be sprayed around wiring and/or other electrical system components. HEPA vacuum and moist rags shall be used for cleanup and decontamination.
   9. Clearance of the Work Area shall be performed as specified in of these specifications.

3.12 WASTE DISPOSAL AND EQUIPMENT LOAD-OUT

A. Preparing equipment for load-out:
   1. Seal openings to prevent escape of internal contamination; or open up equipment, remove filters, and make equipment interiors accessible for cleaning and decontamination.
   2. HEPA vacuum and wet wipe all equipment before removal.

B. Packaging asbestos wastes:
   1. All asbestos-containing wastes, including removed ACM and debris, containment poly, critical barrier materials, suits, respirator filters, vacuum and negative air machine HEPA filters, water filters, and other asbestos-containing items shall be properly packaged for disposal.
   2. Use double 6 mil plastic bags with “gooseneck” seal, or other impermeable containers.
   3. Wrap large or irregular items in 2 layers of 6 mil poly sheeting, seal with tape, and affix required labeling.
   4. Sharp, jagged, or other items (floor tiles, screws, nails, metal debris, wood etc.)that may puncture poly shall be packaged in rigid impermeable containers such as drums or boxes, or wrapped in burlap or other protective covering before sealing in double bags or double layers of 6 mil poly.
   5. Label containers:
      a. OSHA warning label.
      b. DOT performance-oriented hazardous material label.

c. Name and address of generator and abatement location.

C. Removing items from the Work Area:
1. Packaged asbestos wastes, non-porous debris (such as ceiling grid, doors, hardware, and other items that can be decontaminated), and equipment shall be wet cleaned, moved into the equipment decontamination enclosure system, cleaned a second time, and moved into the holding area.
2. Containers and equipment shall be removed from the holding area by workers in clean PPE and respirators who enter from the uncontaminated side (outside). The equipment decontamination enclosure system shall not be used to enter or exit the Work Area.
3. Waste shall be placed in a cart and covered. A plastic runner shall be placed on the floor to the waste storage area. The loaded cart shall be carefully taken to and unloaded into the enclosed waste storage container.

D. Storage of packaged asbestos wastes shall be in a completely enclosed dumpster or other suitable container that can be secured. The secured area shall be kept locked at all times to prevent unauthorized access.

E. Shipment of items from the project:
1. Decontaminated tools and equipment may be shipped by normal carrier to warehouse, another jobsite, or other destination.
2. For asbestos wastes:
a. Line shipping container with 6 mil poly prior to loading packaged asbestos wastes.
b. Post NESHAP placards during loading.
c. Persons performing loading operations shall wear PPE and respirators.
d. Containers and packages shall be tightly packed together to prevent shifting during transport. Large components or heavy items shall be secured to prevent shifting, and shall not be stacked on top of bags.
e. Execute the NESHAP-required Waste Shipment Record (WSR) to be signed by the generator, transporter, and landfill. All WSRs shall be returned to the MEC within 30 days of shipment.
f. ACBM waste shall be transported from the Work Site directly to the landfill.

F. Disposal of packaged asbestos wastes:
1. Only landfills approved and permitted by Illinois for accepting asbestos wastes may be used for disposal.

3.13 DEMOBILIZATION

A. MEC shall inspect the Work Area for evidence of visible debris prior to releasing the area for tear-down. Detection of contamination will require additional cleaning and re-testing of the Work Area.

B. Remove critical barriers and seals.

C. Restore previously-removed items, if specified in the bid documents:
1. Re-mount fixtures and other previously dismounted objects.
2. Return moveable objects to their original locations.
3. Install new filters in HVAC systems where filters were previously removed.
4. Re-establish electric systems and other utilities that were shut down or locked out.

D. A punch list walk-through shall be conducted for each cleared Work Area within two working days of clearance testing by the MEC, Contractor, school engineer, principal, and AOR. All punch list items shall be completed within five working days of walk through.

END OF SECTION 02 82 14

SECTION 02 83 19 - LEAD-BASED PAINT ABATEMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. These environmental requirements apply to all Lake Land projects. These specifications apply for all demolition, construction and renovation projects that require removal and disposal of lead based paint in accordance with all applicable regulations.

B. The Illinois Department of Public Health regulations apply to all facilities occupied by children 6 years old or younger. Abatement of all interior and exterior lead-bearing substances is covered by these specifications.

1.02 DEFINITIONS

A. In addition to the terms listed below, all definitions in the laws and regulations specified elsewhere in this Section are incorporated by reference, whether or not restated herein.

B. Abatement Contractor (AC): the entity responsible for performing the Work in this Section, with the training and accreditation to competently perform the work. This entity shall obtain and maintain any licenses required for the Work in this Section.

C. Architect of Record (AOR): any person or firm employed by Lake Land for the purpose of designing the project.

D. Lake Land: The Owner of the property and the authority ordering the Work specified herein.

E. Lake Land Representative: the entity responsible for overall project coordination and completion.

F. Contractor: the entity responsible for performing the complete scope of work in the Documents. The Contractor may elect to self-perform or subcontract out any portion of the work.

G. Competent person: one who is capable of identifying existing lead hazards in the workplace and selecting the appropriate control strategy for lead exposure, who has the authority to take prompt corrective measures to eliminate them, who is specially trained in a training course which meets the criteria of EPA's Model Accreditation Plan for supervisor, or its equivalent.

H. Drawings: drawings and sketches identified in the Contract or incorporated by a bulletin issued by the Architect or Change Order as the Work progresses

I. Environmental Project Manager (EPM): the person selected by the Environmental Consultant to perform environmental monitoring and act on behalf of Lake Land on the project.

J. HEPA Filter: a High Efficiency Particulate Air filter capable of trapping 99.97% percent of particles greater than 0.3 micrometers in mass median aerodynamic equivalent diameter.

K. IDPH: the Illinois Department of Public Health.

L. Lead Abatement Contractor/Supervisor (supervisor): any person who supervises lead abatement workers. This person must be trained, accredited, and licensed as required, and must also meet OSHA “competent person” criteria for lead abatement.

M. Lead-Based Paint: paints or coatings that are lead bearing substances as defined by IDPH regulations referenced in Laws, Regulations and Standards specified elsewhere in the specifications.

N. Lead Bearing Soil: soil containing an amount of lead in excess of applicable guidelines.

O. Lead Bearing Substance: any dust on surfaces or furniture or other non-permanent items and any paint or other surface coating material as defined by IDPH regulations referenced in Laws, Regulations and Standards specified elsewhere in the specifications.

P. Managing Environmental Consultant (MEC): the entity with overall responsibility for the environmental aspects of the project, including design, organization, direction, oversight and control as well as investigations, assessments, and supervision of project manager.

Q. OSHA: the federal Occupational Health and Safety Administration.

R. Plasticize: to apply plastic sheeting over surfaces or objects to protect them from contamination or water damage.

S. RCRA: the Resource Conservation and Recovery Act and associated regulations as referenced in Laws, Regulations and Standards specified elsewhere in the specifications.

T. SDS: Safety Data Sheets, required by OSHA for any chemical in the workplace that that could be expected to cause an exposure to workers during normal use or in emergency situations.

U. TCLP: the Toxicity Characteristic Leaching Procedure as specified in EPA 530/SW-846, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods 3rd edition, November 1986

V. User or User Agency: means the entity for which or on whose behalf Lake Land has undertaken to cause the Work to be performed.

W. Wet Cleaning: cleaning all surfaces with a phosphate-free lead dissolving detergent.

X. Work: the obligations of the Contractor under the Contract Documents. Work includes, unless specifically excepted by the Contract Documents, the furnishing of all materials, labor, equipment, supplies, plant, tools, scaffolding, transportation, superintendence, permits, inspections, occupancy approvals, insurance, taxes, and all other services, facilities and expenses necessary for the full performance and completion of the requirements of the Contract Documents. Work also means that which is furnished, produced, constructed, or built pursuant to the Contract Documents.

Y. Work Area: areas where lead abatement activities are conducted.

Z. AWork Site: the room or rooms undergoing lead abatement activities. All closets/book rooms/coat hanger rooms/vestibules/washrooms within a room are considered part of the Work Site in which abatement work has been identified on the Drawings, whether or not they are numbered separately.

1.03 SCOPE OF WORK

A. The work includes all labor, equipment, materials, and supplies necessary to perform the Scope of Work in the bid documents by the procedures described herein. The contractor, by submitting a bid for the work, represents itself as knowledgeable and expert in the performance of the work, and includes all things usually and customarily necessary to provide a complete and finished job, whether specifically mentioned or not.

B. Clean-up of lead-bearing dust, flakes, and residues; abatement of paint, architectural components, substrates, or other lead-bearing items listed in the Bid documents including pre-cleaning, moving of furnishings, establishing regulated areas, isolating the Work Areas, protection of adjacent surfaces, containment when required, cleanup and decontamination to the specified clearance levels, proper packaging and disposal of wastes, and all other steps necessary to complete the scope of work.

C. Repair or replacement of damaged surfaces, fixtures, or furnishings to restore them to their pre-existing condition to the satisfaction of the Lake Land Representative, MEC and school engineer.

D. When the Bid documents include lead and asbestos abatement items in the same spaces, they should be performed in the sequence and combinations that produce the most efficient results and the least amount of total waste. That sequence will generally be:
   1. Cleanup and removal of failed or delaminated friable asbestos-containing debris, if any.
   2. Cleanup of lead dust, flakes, chips, and residues. If these lead wastes are mixed with asbestos debris, they must be disposed together as regulated lead waste or asbestos waste depending on TCLP results.
   3. Removal of friable asbestos materials and cleanup of visible residues.
   4. Removal of architectural components with lead-based paint still adhered, such as wood trim, doors, plaster, drywall, window frames, etc.
   5. Removal of non-friable asbestos materials from the exterior. If both asbestos and lead are on the same components, for example lead paint and asbestos-containing glazing compound, the components may be removed and disposed as construction debris as long as both the lead- and asbestos-bearing materials remain intact.
   6. Removal of lead-based paint, coatings, or surfacing material.
   7. Final cleanup and decontamination of the work space. Final air clearance (asbestos) and wipe samples (lead) may be performed concurrently.
   8. When lead and asbestos work is combined, the more stringent regulations and procedures shall apply for both.
   9. Waste disposal:
      a. Classified waste: loose paint flakes, chips, and dust; lead cleaning and decontamination supplies; combined final decontamination supplies; contaminated soil; disposable suits, gloves, head covers, and foot covers; respirator, vacuum, or negative air machine filters; or other items likely to fail a TCLP or RCRA test.
      b. Special waste: asbestos-containing waste materials and lead-contaminated waste that has passed TCLP or other RCRA tests.
      c. Construction and demolition (C&D) debris: lead-bearing architectural components; cleaned poly sheeting from lead projects; concrete and lumber without tile or mastic attached, demolition debris, and other general wastes.
      d. All asbestos-containing or lead-bearing wastes shall be disposed in a facility permitted to accept asbestos-containing or lead-bearing waste materials.

E. Compliance with all applicable laws, regulations, standards, and these specifications. In the case of a conflict, the contractor shall comply with the most stringent.

F. All licenses, accreditations, permits, notifications, reports, or other documents required by law, regulation, this specification, or the Bid documents.

1.04 LAWS, REGULATIONS, AND STANDARDS

A. PBC contractors shall maintain compliance with all applicable current laws, regulations, and standards including, but not limited to those listed below which are incorporated by reference:
1. 410 ILCS 45: Illinois Lead Poisoning Prevention Act
2. 77IAC845: Illinois Lead Poisoning Prevention Code (Revision 8/1/2000)
3. 29 CFR 1910: US OSHA General Industry Standards
4. 29 CFR 1926: US OSHA Construction Standards
5. HUD Guidelines: Lead Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing, except Chapter Seven (1995); Chapter 7 of the Guidelines, Lead Based Paint Inspection (Revised, 1997)
6. 40 CFR Part 61: US EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP)
7. 40 CFR Part 261: Identification and Listing of Hazardous Waste (Resource Conservation and Recovery Act, RCRA)
8. 40 CFR 245: Lead Renovation, Repair and Painting.

B. Regulatory changes shall be incorporated into this specification on their effective date. Contractors shall reflect these changes into ongoing projects without any additional notice or cost to Lake Land.

1.05 ASSESSMENT, MONITORING, TESTING, AND ANALYSIS

A. The MEC will perform inspection, testing, and monitoring services during the work and upon its completion:
1. Testing of coatings, soils, dust, and debris to determine the presence of lead or other hazardous substances.
2. Area air monitoring during the work to determine the airborne concentrations of lead inside and outside of the Work Area. The EPM shall stop the Work if airborne lead concentrations outside the Work Area exceed the OSHA Action Level of 30 micrograms per cubic meter of air (µg/m3) as an 8-hour time-weighted average. The Work may re-start when the source of lead release has been identified and resolved, and corrective measures have been instituted to prevent recurrence.

B. The Abatement Contractor shall perform:
1. An Exposure Assessment prior to the start of the Work to determine the requirements for respiratory protection and frequency of OSHA monitoring for each type of activity.
2. Perform OSHA compliance air monitoring to determine exposures to its employees in accordance with Laws, Regulations and Standards specified elsewhere in the specifications.

C. Credentials required for analysis of lead:
1. Accreditation by AIHA or AALA; or
2. Participation in the Environmental Lead Proficiency Analytical Testing (ELPAT) program or Environmental Lead Laboratory Accreditation Program (ELLAP); or
3. Participation in the Proficiency in Analytical Testing (PAT) for metals analysis.

1.06 SUBMITTALS

A. The Abatement Contractor (AC) shall submit the following information to the EPM:
1. Written notification to Illinois Department of Public Health.
2. Written Notification to CDPH.

3. Evidence that all contractor employees in the Work Areas are licensed, trained and accredited in accordance with OSHA, NESHAP, and EPA MAP requirements:
   a. Current refresher training certificate.
   b. Current IDPH lead license
   c. Current physician's written opinion
   d. Current respirator fit test data.
4. Copy of OSHA Exposure Assessment, if available.
5. OSHA compliance air monitoring records generated during the project.
6. Waste Shipment Records.
7. Worker license and certification log.
8. Safety Data Sheets (SDS) for chemicals used on site.
9. Work Plan and Schedule.
10. Laboratory or analyst credentials and proficiency certificates for contractor samples.

B. Prior to beginning Work , the AC shall submit required notifications to applicable regulatory agencies and receive an Owners Authorization and Notice to Occupants from Lake Land for buildings where lead abatement will take place. The AC shall provide copies of all regulatory notices to the Lake Land Representative, the MEC, and the EPM within 24 hours of sending such notices to the regulatory authority. The AC shall not begin a project until such notices are provided to the Lake Land Representative.

1.07 RECORDKEEPING

A. AC shall retain records for 6 years:
   1. Name and address of the contractor who performed the project.
   2. Location of the project.
   3. Summary of abatement techniques used.
   4. Location of the disposal site for lead-based substances removed from the Work site.
   5. Starting and completion dates of the lead abatement project.

PART 2 - PRODUCTS

2.01 TOOLS AND EQUIPMENT

A. All equipment shall at least conform to minimum industry standards.

B. Equipment:
   1. Negative Air Machines shall provide HEPA filtration and conform to ANSI Z9.2 fabrication criteria.
   2. The AC should ensure that respirators are NIOSH approved for use with lead, asbestos, or other contaminants anticipated in the Work.
   3. Contractor is fully responsible for complying with OSHA rules for other Safety equipment, such as hard hats, safety harnesses, eye protection, gloves, footwear, and any other safety devices used on the site.

C. Tools:
   1. Shovels and scoops shall be suitable for use in a plasticized containment. Plastic or rubber models are preferred, but metal shovels are acceptable when used with care to prevent damage to poly sheeting and permanent surfaces. Appropriate tape may be applied to the leading edges to aid in poly damage prevention.

2. Scrapers, wire and bristle brushes, utility knives and other hand tools shall be of good quality and suitable for the intended uses. The contractor shall keep an ample supply on hand for the completion of the Work.
3. Power tools such as, but not limited to saws, pneumatic chisels, brushes, sanders, and needle guns shall be equipped with shrouds and HEPA-filtered local exhaust systems to capture released particles.

2.02 MATERIALS

A. Installed materials which become a part of the Work such as, but not limited to, primers, paints, surfacing compounds, and other surface coverings or finishes shall be new unless specified otherwise, of good quality, non-lead-bearing, and shall conform to the respective reinstallation specification sections.

B. Abatement materials:
1. Poly sheeting for all applications shall be 6 mil nominal thickness for all applications.
2. Tape shall be 2" or 3" tape suitable for joining poly seams and attaching poly sheeting to surfaces.
3. Spray adhesives shall be non-flammable and free of methylene chloride solvents.
4. Chemicals used for LBP removal and cleanup shall be free of methylene chloride solvents. The chemicals shall be low-odor and free of volatile compounds.
5. Disposal bags shall be 6 mil where used for single-bagging, and minimum 4 mil where used for double-bagging.
6. Disposable suits, hoods, and foot coverings shall be TYVEK or similar.
7. Solvents shall be compatible with any primers, paints, coatings, or other surfacing materials to be installed following their use.
8. Cleaning solutions shall cause lead to chelate, precipitate, or otherwise effectively release lead from surfaces. Cleaning solutions shall not leave residue on surfaces to be painted.

PART 3 - EXECUTION

3.01 EMPLOYEE TRAINING, QUALIFICATION AND MEDICAL SCREENING

A. Supervisors and workers shall be trained, accredited, and licensed in accordance with IDPH rules.
1. Contractor shall keep current, up-to-date copies of licenses at the job site at all times.
2. A licensed supervisor (competent person) shall be present at the Work site at all times when Work under this Section is being conducted.

B. Medical Screening shall be instituted for contractor's employees in accordance with regulations referenced in Laws, Regulations and Standards specified elsewhere in the specifications. Medical certificates shall be current.

3.02 PERMISSIBLE LIMITS

A. Permissible Limits of lead in lead bearing substances. Substances with lead content below the following levels are not regulated and are not subject to the requirements of this Section:
1. 5,000 parts per million (ppm), or 0.5% lead by weight in any substance. However, note that OSHA regulations apply to any operation that releases lead into the air in concentrations in excess of the action level of 30 µg/m3 (see Permissible Exposure Limits for contractor employees below), and the CDPH shall require remedial action when dust contains greater than 40 µg/sf (see sub-paragraph below) of surface area. Actions such as sandblasting, dry sanding, or other dry aggressive abrasive disturbances can generate lead concentrations greater than either of these

limits on substances with lower lead contents and, in such instances, shall be required to adhere to this specification, regardless of substance lead content.
2. 400 micrograms per gram (µg/g) of soil in high contact play areas.
3. 400 micrograms per gram (µg/g) of soil in other areas.
4. 40 micrograms per square foot (µg/sf) of surface area of dust on interior floors.
5. 200 micrograms per square foot (µg/sf) of surface area of dust on other surfaces.

B. Permissible Exposure Limits for contractor employees:
1. No person shall be exposed to a lead concentration in excess the regulations referenced in Laws, Regulations and Standards specified elsewhere in the specifications.
2. Where exposures exceed regulated levels, medical monitoring shall be instituted by the AC in accordance with the regulations referenced in Laws, Regulations and Standards specified elsewhere in the specifications.

3.03 EXPOSURE ASSESSMENT AND MONITORING

A. The AC shall make an assessment of the exposures expected by the tasks to be used for the scope of work listed in the Bid documents. Assessment may be based upon:
1. Initial monitoring of representative workers who the contractor believes are exposed to the greatest airborne concentrations of lead, or
2. Past monitoring (within the past 12 months) or objective data for conditions closely resembling the processes, type of material, control methods, Work practices and environmental conditions to be used for this document, or
3. In the absence of an exposure assessment or monitoring, the contractor shall assume the following exposure conditions:
a. = 400 µg/m3 for manual demolition of lead-bearing substances (i.e., drywall, other architectural components), manual scraping, manual sanding, heat gun use, and power tool cleaning with dust collection systems, or any other task where there is reason to believe an employee may be exposed to airborne lead.
b. = 2,500 µg/m3 for lead burning, rivet busting, power tool cleaning without dust collection systems, cleanup of dry spent abrasives, or movement or removal of abrasive blasting enclosures.
c. > 2,500 µg/m3 for abrasive blasting, welding, cutting, and torch burning.

B. The contractor shall perform personal monitoring in accordance with the regulations referenced in Laws, Regulations and Standards specified elsewhere in the specifications.

C. The contractor may be required to perform air monitoring outside the Work Area if there is observance of contamination escape from the Work Area (such as dust accumulation), or evidence of failure of control methods to contain the release of airborne lead particles.

3.04 RESPIRATORY PROTECTION

A. Respiratory protection shall be worn in accordance with all applicable regulations referenced in Laws, Regulations and Standards specified elsewhere in the specifications.

3.05 HYGIENE PRACTICES

A. Eating, drinking, smoking, and applying of cosmetics are not allowed in the Work site or area.

B. A changing area and shower shall be provided for changing into and removing personal protective clothing and for showering or washing before leaving the Work Area. Any person leaving the Work site or Work Area shall rinse his or her mouth with potable water and wash hands and face thoroughly before eating drinking, or smoking. A portable lavatory facility, potable water supply, or portable decontamination unit shall be provided by the contractor for the washing of face and hands before any abatement activities are started. School lavatory facilities shall not be used.

C. Equipment decontamination procedures shall be employed to prevent the spread of lead contamination. Disposable items shall not be reused and shall be disposed of properly.

D. Personal Protection Equipment (PPE) shall include:
1. Full body suits with hoods and shoe covers. Tyvek or similar disposable suits may be worn only once, and must be disposed in accordance with the Waste Disposal Article in the specifications.
2. Appropriate PPE shall be used as required by regulations referenced in Laws, Regulations and Standards specified elsewhere in this Section and established industry practice.

3.06 PROHIBITED ACTIVITIES

A. The following methods shall not be permitted:
1. open flame burning
2. dry sanding
3. uncontained hydro-blasting or sandblasting
4. use of methylene chloride
5. dry scraping

3.07 WORK AREA ISOLATION AND PREPARATION

A. General Preparation
1. Post caution signs at all entrances and exits to the Work Area in accordance with OSHA rules:
a. at least 20” x 14”
b. date and location of the lead abatement project
c. Wording at least 2” high stating, “Caution, Lead Hazard, Do Not Remain in Work Area Unless Authorized”.
2. Secure the Work Area from entry by children, pregnant women, school staff or other unauthorized persons.
3. Close off the Work Site from other portions of the building by closing doors tightly, taping shut when necessary, or with 6 mil poly z-flap curtains over doorways or entrances to the Work Site.
4. At Work Area exit, provide walk-off pan, wet towel, or other means to prevent tracking lead contamination to other parts of the facility. A protective liner that is watertight shall be placed under the walk-off pan, wet towel, to prevent damage to the underlying surface.

B. Interior Preparation
1. Furniture, personal items, and other moveable objects in the Work Site shall be protected with 6 mil poly sheeting and sealed with tape, or moved from the Work Site and stored in a location designated by the MEC. Items shall be cleaned before being moved to another area to prevent cross-contamination.
2. Turn off all forced air ventilation and seal exhaust and intake points in the Work Site.
3. Turn off electrical circuits in the Work Area to isolate them from contact. Provide temporary power equipped with Ground-Fault Circuit Interrupter (GFCI) devices to prevent electric hazards in the wet working environments. Power cords must be in good condition, not spliced, not more than 100

feet long, and shall be suspended off the floor and out of workers' way to protect the cords from damage. Cords must not be fastened with staples, hung from nails, or suspended with wire.

4. Seal the opening seams of all food storage units, such as cabinets or refrigerators, or cover with poly sheeting taped securely in place.
5. Cover all objects that cannot be moved, such as radiators, stoves, cabinets, built-in furniture, bookcases, or other stationary items with 6 mil plastic sheeting taped securely in place.
6. If required by the scope of work, remove all carpeting from the Work Site. Lightly mist with water prior to removal to prevent lead dust exposure. Carpeting shall be professionally cleaned or replaced, if required by scope of work.
7. Cover and protect floors in the Work Site with 6 mil plastic sheeting, sealed with tape. Additional protection may be required to protect flooring materials from potential damages resulting from the /abatement processes. All additional protection shall be provided as needed to ensure that all building surfaces will be adequately protected during the /abatement processes and be included in the base bid.
8. Establish a negative pressure system to prevent contaminated air from escaping from the Work Site to uncontaminated areas, and consisting of:
    a. Negative air machines (NAMs) exhausted from the Work Site, and vented to the outside of the building whenever possible.
    b. Provide a sufficient number of NAMs to provide a negative pressure of 0.02" wc between the Work Area and adjacent spaces, and 4 air changes per hour. Assume NAMs operate at 80% of design capacity. At least one backup NAM shall be available per Work Site.
    c. The negative air system shall remain in continuous operation until cleanup and clearance is achieved.

C. Exterior Preparation
1. 6 mil plastic sheeting shall be placed over the ground, foundation, or other surfaces adjacent to or below the abatement area.
2. Close or otherwise seal windows, grilles, intakes, or other nearby openings (above, below, or beside) that could be exposed to airborne dust from the work.
3. Sheeting shall extend out from the foundation 3 feet per story to be abated, with a minimum of 5 feet and a maximum of 20 feet. This sheeting shall remain in place until completion of final cleaning.
4. Sheeting shall be secured at the foundation and along all edges and seams.
5. When liquid waste is produced by any abatement method used, the edges of the plastic sheeting shall be raised a sufficient distance to contain the liquid waste.

3.08 LEAD ABATEMENT

A. General:
1. Unless otherwise specified in the Bid documents, lead-bearing substances listed in the Bid documents shall be removed by methods that minimize the generation of dust or debris.
2. Lead-based paint abatement practices shall be compatible with, and shall produce surfaces that are in conformance with Division 09.
3. Where existing lead-bearing substances may be disturbed by the installation of new work, they shall be removed sufficiently to prevent such disturbances.
4. Following any window dismantlement activity in the Work Area, the abatement contractor shall wet scrape the loose paint off the exposed window lintel and prepare, seal, prime and paint the lintel surface. If the lintel is to be replaced as required by the architect, the abatement contractor shall only remove all the loose paint and not repaint the lintel surface.

5. Where disturbances of lead-bearing substances produce dust, the dust must be assumed to contain lead until tested and proven otherwise. Dust suppression methods, such as misting with water and HEPA vacuums shall be used.
6. Movement of lead-bearing wastes through unsecured school areas:
    a. Wastes shall be contained in 6 mil impermeable (i.e. poly) bags.
    b. Architectural components and other debris shall be wrapped in 6 mil plastic sheeting and sealed with tape.
    c. Load-out only during non-school hours.
    d. Dust and debris shall not be tracked or spilled outside the Work Site. In the event of spillage or tracking, contractor shall HEPA vacuum visible debris and wet wipe all affected areas with a non-TSP lead-dissolving detergent solution.

B. Interior Abatement methods may include:
1. Removal and replacement of the component or surface.
2. Wet scraping of lead-bearing material.
3. Heat gun with operating temperatures not to exceed 700° F.
4. Nonflammable chemical strippers shall not contain methylene chloride. This method is generally used with unique, irreplaceable, architecturally, or historically significant components. Chemical strippers shall be compatible with new paints, coverings, or coatings to be installed.
5. Sander, needle gun, chipper, scarifier, or other mechanical paint removal system. All such power tools shall be equipped with a HEPA vacuum collection system.
6. Enclosure with a durable material or coating that does not readily tear or peel, such as but not limited to, gypsum Lake Land; fiberglass mats; canvas-backed vinyl wall coverings; high pressure, laminated plastic sheet, such as Formica®, tile, vinyl flooring, paneling, plastic, metal, or wood. Enclosures shall only be used when specified in the Bid documents.

C. Exterior abatement methods may include:
1. All methods listed under Interior Abatement.
2. Vacuum-blasting.
3. Contained hydro-blasting or sandblasting.
4. When vacuum-blasting or contained hydro-blasting is used, window interiors shall be sealed with 6 mil plastic sheeting and secured with waterproof tape. All seals shall be checked every two (2) hours to assure integrity. Leaks shall be repaired immediately.
5. Window replacement:
    a. The room interior shall be sealed off and protected from dust entry. If windows are removed from the inside, the room must be fully protected in accordance with Work Area Isolation and Preparation “Interior Preparation” and “Exterior Preparation” specified elsewhere in Part 3. When windows are removed from the outside, protection must be in accordance Work Area Isolation and Preparation “Exterior Preparation” specified elsewhere in Part 3, including at least a seal over the wall immediately inside the window Work Area. In either case, the AC is responsible for preventing lead dust contamination of interior spaces.
    b. Damaged lead-based paint must be removed from the wood window frame parts that will remain, both on the inside and on the outside. MEC will direct the AC whether to abate or mitigate undamaged lead-based paint from wood window frames or frame parts on a case by case basis.
    c. Metal window replacements: The contractor is cautioned that high concentrations of lead dust and asbestos containing caulk have been found behind the window frame caps installed over the original lead-based painted frames during previous window replacements. Although a lead license is not required for non-LBP metal window removal, contractor must assume that he or she may encounter concentrated lead dust. When removing these caps,

the room interior shall be protected in accordance with Work Area Isolation and Preparation "Interior Preparation" specified elsewhere in Part 3.

D. Soil Removal or Remediation:
   1. Identify and eliminate the source of lead contamination if possible, to prevent re-contamination of remediated soil.
   2. Dust generation shall be held to a minimum and dust suppression methods shall be performed, such as misting with water during handling.
   3. Monitoring of airborne dust shall be performed by the MEC and shall not exceed acceptable levels.
   4. Soil that is stockpiled prior to disposal shall be:
      a. placed on a layer of impermeable plastic;
      b. kept moist to avoid dust generation; and
      c. covered with impermeable plastic which is secured to the ground.
   5. Soil shall be subjected to a TCLP test to determine waste classification.
   6. Contaminated soil shall be transported to disposal facility in sealed containers or covered vehicles. Care shall be taken to prevent tracking of contaminated soil off-site by vehicular or foot traffic.

E. Demolition. Structural demolition of buildings does not require removal of lead-bearing substances or lead-licensed contractors or workers. However, the following minimum requirements must be observed to prevent spread of lead contamination:
   1. Close windows and seal doors of adjacent or nearby structures. Cover air intakes or other openings on facing walls or roof areas where dust could enter.
   2. Mist the demolition activities with water to suppress dust release.
   3. Remove and dispose of loose lead-based paint from substrate prior to demolition. Conduct waste characterization for proper disposal.
   4. Remove and dispose of loose lead-based paint form floors and horizontal surfaces. Conduct waste characterization for proper disposal.
   5. Do not spread debris outside the immediate demolition area.
   6. Do not allow foot or other traffic through the demolition area that may spread lead-bearing dust to other building areas.
   7. Pulverized painted components may generate lead dust that may require TCLP testing and waste characterization prior to disposal.

3.09 CLEANING AND DECONTAMINATION

A. Interior Cleaning: includes any furniture, cabinets, or other item that was located in the Work Area during the lead-based paint /abatement activities.
   1. Properly containerize and remove all lead wastes from the Work Site.
   2. HEPA vacuum all surfaces including woodwork, walls, windows, window wells, and floors.
   3. Wet clean all surfaces with a cleaning solution.
   4. Allow all surfaces to dry and HEPA vacuum any remaining visible residue.

B. Exterior Cleaning:
   1. Recover all visible debris from exterior areas.
   2. HEPA vacuum surfaces that have been abated, paying particular attention to horizontal surfaces, such as window sills, wells, mullions, ledges, etc., both in the abated area and on nearby windows and surfaces.

3.10 FINAL CLEARANCE

A. A lead abatement Work Area shall be complete if lead dust levels on horizontal interior surfaces are below 40 micrograms per square foot (µg/sf) on floors or 200 micrograms per square foot (µg/sf) on other surfaces by the EPM. At least 3 wipe samples per contained Work Area shall be collected by the MEC from floors, window sills, countertops, tops of cabinets, or other representative surfaces.

B. The contractor shall restore the Work Area to usable condition including reconnection of electrical, water and HVAC services, removal of barriers and contractor equipment, waste removal and disposal and returning furniture removed as required by Work Area Isolation and Preparation specified elsewhere in Part 3.

3.11 WASTE DISPOSAL

A. All plaster, paint chips, lead dust, cleaning supplies, HEPA filters, vacuum contents and filters, disposable suits, and other concentrated lead-bearing waste shall be packed in at least two 6 mil plastic bags.
   1. Dispose of concentrated lead wastes separately from architectural components.
   2. Subject concentrated wastes to TCLP test to determine waste classification.
   3. Prepare a Waste Shipment Record, to be signed by the generator, shipper, and disposal site; to be returned to the generator within 45 days. IEPA and USEPA Generator I.D. numbers shall be provided by Lake Land.

B. Architectural components, other items to which lead-based paint remains adhered, and cleaned plastic sheeting may be disposed of as common construction and demolition debris. Components shall be wrapped in 6 mil plastic sheeting and sealed with tape. Components shall be transported after school hours if carried through the building.

C. All lead-bearing wastes shall be stored in covered, locked containers until transported off-site.

D. Remove lead waste from the Work Site in accordance with RCRA and special waste disposal requirements.

E. Transport all non-hazardous wastes in covered vehicles to an IEPA-approved landfill.

F. Transport all hazardous wastes in covered vehicles to a hazardous waste landfill permitted to accept lead wastes.

G. Wastes from the site shall not be mixed with wastes from other sites.

END OF SECTION 02 83 19

SECTION 02 86 13 - HAZARDOUS AND UNIVERSAL WASTE MANAGEMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. These environmental requirements apply to all Lake Land projects. These specifications apply for all demolition, construction and renovation projects that require the removal and disposal of hazardous and/or universal waste in accordance with all applicable regulations.

B. This Section describes the segregation, packaging, labeling, transport, and disposal and/or recycling of hazardous and universal waste materials generated by demolition/renovation activities and the subsequent shipment of properly packaged and labeled waste materials to open, permitted and Owner-approved disposal sites.

C. The Contractor's Work includes work area preparation, sampling and analysis, on-site handling, supervision of all Work, preparation of reports, protection of on-site persons, utilities, and property, and payment of all transport and disposal/recycling fees.

1.02 DEFINITIONS

A. In addition to the terms listed below, all definitions in the laws and regulations specified elsewhere in the specifications are incorporated by reference, whether or not restated herein.

B. Lake Land: the Owner of the property and the authority ordering the Work specified herein.

C. Lake Land Representative: the entity responsible for overall project coordination and completion.

D. Capacitor: device for accumulating and holding a charge of electricity and consisting of conducting surfaces separated by dielectric fluid.

E. CFR: the Code of Federal Regulations, is the basic component of the Federal Register publication system. The CFR is a codification of the regulations of the various Federal Agencies.

F. Chemical Waste Landfill: an open and approved landfill, permitted under 35 IAC Subtitle G Part 814 at which protection against risk of injury to health or the environment from migration of PCBs to land, water or the atmosphere is provided from PCBs and PCB items deposited therein by locating, engineering, and operating the landfill as specified in 40 CFR 1761.75.

G. Component: all removable parts/materials which make up ballasts, bulbs, batteries, and other electrical equipment, a percentage of which can be recycled.

H. Container: any portable device, in which material is sorted, transported, treated, disposed of, or otherwise handled.

I. Contractor: the entity responsible for performing the complete scope of work in the Documents. The Contractor may elect to self-perform or subcontract out any portion of the work.

J. Disposal: to intentionally or accidentally discard, throw away or otherwise complete or terminate the useful life of PCBs and PCB items. Disposal includes spills, leaks, and other uncontrolled discharges of PCBs as

well as actions related to containing, transporting, destroying, degrading, decontaminating, or confining PCBs and PCB items.

K. Disposal Facility: a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

L. EPA Identification: the unique number assigned by the EPA to each generator or transporter of hazardous waste, and each treatment, storage or disposal facility.

M. Fluorescent light ballast: a device that electrically controls fluorescent light fixtures and that includes a capacitor containing 0.1 kg or less of dielectric.

N. Leak or Leaking means any instance in which PCB, chemical, hazardous or universal waste Article, Container or Equipment has any PCB, chemical, hazardous or universal waste residue on any portion of its external surface or surrounding area.

O. Facility: all contiguous land, structures, other appurtenances, and improvements on the land, used for treating, storing or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units, e.g. one or more landfills, surface impoundments, or a combination of them.

P. On-site: within the boundaries of a contiguous property unit.

Q. OSHA: the federal Occupational Health and Safety Administration.

R. Landfill: an open and permitted disposal facility or part of a facility where hazardous and special wastes are placed in or on land and which is not a land treatment facility, a surface impoundment, or a combination of them.

S. Managing Environmental Consultant (MEC): the entity with overall responsibility for the environmental aspects of the project, including design, organization, direction, oversight and control as well as investigations, assessments, and supervision of project manager.

T. Manifest: the shipping document, EPA form 7710-53, used for identifying the quantity, composition, origin, routing, and destination of hazardous waste during its transportation from the point of generation to the point of treatment, storage or disposal.

U. Polychlorinated Biphenyls (PCBs): any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance.

V. PCB Article Container: any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCB Articles or PCB Equipment, and whose surface(s) has not been in direct contact with PCBs.

W. PCB Container: any package, can bottle, bag, barrel, drum, tank, or other device that contains PCBs or PCB Articles and whose surface(s) has been in direct contact with PCBs.

X. PCB Item: any PCB Article, PCB Article Container, PCB Container, or PCB Equipment, that deliberately or unintentionally contains or has as a part of it any PCB or PCBs.

Y. Recover Refrigerant: to remove refrigerant in any condition from an appliance without necessarily testing or processing it in any way.

Z. Recycle Refrigerant: to extract refrigerant from an appliance and clean refrigerant for reuse without meeting all of the requirements for reclamation. In general, recycled refrigerant is refrigerant that is cleaned using oil separation and single or multiple passes through devices such as replaceable-core filter-driers, which reduce moisture, acidity, and particulate matter.

AA. AReclaim Refrigerant: to reprocess refrigerant to at least the purity specified in Air-Conditioning and Refrigeration Institute (ARI) Standard 700-1988, “Specification for Fluorocarbon refrigerants”, and to verify this purity using the analytical methodology prescribed in the standard. In general reclamation involves the use of processes or procedures available only at the processing or manufacturing facility.

BB. Storage: the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, destroyed, disposed of or stored elsewhere.

CC. SDS: Safety Data Sheets, required by OSHA for any chemical in the workplace that that could be expected to cause an exposure to workers during normal use or in emergency situations.

DD. Toxic Characteristic Leaching Procedure (TCLP): a laboratory test method to determine the mobility of both organic and inorganic compounds present in liquid, solid, and multiphasic wastes performed in accordance with test methods required under 40 CFR Part 261 and 268.

EE. Transporter: any person engaged in the off-site transportation of special waste and/or hazardous waste within the United States, by air, rail, highway or water, if such transportation requires a manifest under 40 CFR Part 262.

1.03 SCOPE OF WORK

A. The work includes all labor, equipment, materials, and supplies necessary to perform the Scope of Work in the bid documents by the procedures described herein. The Contractor, by submitting a bid for the work, represents itself as knowledgeable and expert in the performance of the work, and includes all things usually and customarily necessary to provide a complete and finished job, whether specifically mentioned or not.

1.04 QUALITY ASSURANCE

A. Work outlined in this Section must be performed by a qualified Contractor, with a minimum of 10 years’ experience, who is thoroughly familiar with working with regulated waste materials of similar size and scope, the Contractor must be familiar with and capable of complying with all federal, state, and local regulatory requirements pertaining to waste handling.

B. Medical Examinations: The Contractor shall provide workers with a comprehensive medical examination as required by 29 CFR 1910.134 and 29 CFR 1926.62. The examination will not be required if adequate records show that employees have been examined as required within the last year. The Contractor shall institute a medical surveillance program for all employees who are or may be exposed above the action level for more than 30 days per year.

1.05 LAWS, REGULATIONS, AND STANDARDS

A. The Contractor shall assume full responsibility and liability for the compliance with all applicable federal, state, and local regulations pertaining to hazardous, special and universal waste management and disposal/recycling.

B. Federal Requirements:
1. Federal requirements which govern the management, hauling and disposal of hazardous, special and universal waste/recycled material include but are not limited to the following:
a. DOT: U. S. Department of Transportation, including but not limited to the following:
1) Hazardous Substances, Title 49, Part 171 and 172 of the Code of Federal Regulations.
2) Hazardous Material Regulations, General Awareness and Training Requirements for Handlers, Loaders and Drivers,
3) Title 49, Parts 171-180 of the Code of Federal Regulations.
4) Hazardous Material Regulations, Editorial and Technical Revisions, Title 49, Parts 171-180 of the Code of Federal Regulations.
a) EPA: U. S. Environmental Protection Agency (EPA), including but not limited to the following:
Management of Hazardous Wastes Resource Conservation and Recovery Act (RCRA), Title 40, Parts 260-299 of the Code of Federal Regulations.
Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution In Commerce, and Use Prohibitions, Title 40, Parts 761, of the Code of Federal Regulations.
Protection of Stratospheric Ozone, Title 40, Part 82 of the Code of Federal Regulations.
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Title 42, Section 103.
Universal Waste Rule, Title 40, Part 273 of the Code of Federal Regulations.
b) LABOR: Occupational Safety and Health Administration, including but not limited to:
Occupational Safety and Health Guidelines, Respiratory Protection, Title 29, Part 1910.134.
Occupational Safety and Health Guidelines, Occupational Safety and Health Standards, Lead, Title 29, Part 1910.1025.
Occupational Safety and Health Guidelines, Occupational Safety and Health Standards, Hazard Communication, Title 29, Part 1910.1200.
Safety and Health Guidelines for Construction, Title 29, Part 1926 of the Code of Federal Regulations.

C. State Requirements: Abide by all state requirements which govern the management, hauling and disposal of hazardous, special and universal waste/recycled material. In Illinois, this includes, but is not limited to the following:
1. Title 35 of the Illinois Administration Code (IAC), including but not limited to the following:
a. Wastestream Authorization, IAC Chapter I, Subpart b, Part 709.
b. Hazardous Waste Management Systems: General, IAC Chapter I, Subchapter c, Part 720.
c. Identification & Listing of Hazardous Waste, IAC Chapter I, Subchapter c, Part 721.
d. Standards Applicable to Generators of Hazardous Waste, IAC Chapter I, Subchapter c, Part 722.
e. Standards Applicable to Transporters of Hazardous Waste, IAC Chapter I, Subchapter c, Part 723.
f. Standards Applicable to Treaters, Storers, and Disposers of Hazardous Waste, IAC Chapter I, Subchapter c, Part 724.
g. Interim Status Standards of Hazardous Waste Treaters, Storers, and Disposers, IAC Chapter I, Subchapter c, Part 725.
h. Standards for the Management of Specific Hazardous Waste and Specific Types of Hazardous Waste Management Facilities, IAC Chapter I, Subpart c, Part 726.

i. Land Disposal Restrictions, IAC Chapter I, Subchapter c, Part 728.
j. Universal Waste Management, IAC Chapter I, Subchapter d, Part 733.
k. Solid Waste, IAC Chapter I, Subchapter i, Part 807.
l. Special Waste Classifications, IAC Chapter I, Subchapter i, Part 808.
m. Special Waste Hauling, IAC Chapter I, Subchapter i, Part 809.
n. Standards for New Solid Waste Landfills, IAC Chapter I, Subchapter i, Part 811.
o. Procedural Requirements for Permitted Landfills, IAC Chapter I, Subchapter i, Part 813.
p. Standards for Existing Landfills and Units, IAC Chapter I, Subchapter g, Part 814.
q. Standards for Management of Used Oil, IAC Chapter I, Subchapter e, Part 739.

1.06 SUBMITTALS

A. Before start of any hazardous waste removal Work, the Contractor must submit a Hazardous Waste Management Plan to the MEC fifteen (15) days prior to the start of Work.

B. During the Work, the Contractor must submit the following to the MEC, with ten (10) days of activity, off-site removal, or completion of work if duration is less:
1. TCLP test results, as required to characterize waste paint chip debris for segregation and packaging purposes prior to transport from the site.
2. Submit copies of all executed manifests and disposal site receipts and waste quantities within ten (10) days to the MEC.
3. Receipts for all recycled materials accepted at authorized recycling facilities. The receipts will include the number of components recycled as well as the amount of materials recycled and/or disposed.
4. Documents for the removal, handling, recycling or disposal of CFC Refrigerant/Reclamation.
5. Daily Reports - list names of active workers for each day, work starting and stopping times, visitors to the site, and description of Work accomplished.

C. Submittal Review:
1. Review of submittals or any comments made do not relieve the Contractor from compliance with the requirements of the contract specifications and drawings. The purpose of this check is to review for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents.
2. The Contractor must not begin any Work applicable to this section until all required submittals have been reviewed and accepted by the MEC.

1.07 HAZARDOUS WASTE PLAN REQUIREMENTS

A. General Applicability of Codes and Regulations:
1. Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable codes and regulations have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.

B. Contractor Responsibility:
1. Notice shall be provided to the Lake Land Representative a minimum of 2 working days prior to the removal of any hazardous, special or universal waste and/or recycled hazardous, special or universal waste from the site.
2. Notice will be provided to the Lake Land Representative within 4 hours of any environmental problems, complaints, fines, citations or issues by any government body or regulatory agency pertaining to hazardous, special or universal waste management and disposal. Written

confirmation will be provided to the Lake Land Representative within 48 hours of the incident that indicates that all problems and issues have been satisfactory addressed.

C. The Contractor must prepare a Hazardous Waste Plan designating appropriate procedures and equipment for performing the Work. The Hazardous Waste Plan must address the proper management/handling and disposal/recycling of wastes generated during Work activities. The Contractor's Hazardous Waste Plan for this project must include as a minimum the items listed below:

1. List of Hazardous Waste Equipment:
   a. A description of the proposed equipment to be used during the removal, handling, temporary storage and transport of hazardous materials related to the Work.
   b. Hazardous Material Handling:
      1) Procedures including a description of the method of transportation and
      2) Contractor shall provide a description of procedures for on-site
      3) 3The plan will include the following documentation for each transporter:
         a) A copy of state and local special waste and/or hazardous waste hauler licenses for each transporter must be provided in the Plan.
         b) U.S. EPA Identification Number of waste hauler.
         c) Current list of all transporting vehicles to be used including:

         Vehicles make, model and year.
         Serial number for each vehicle.
         Vehicle license number.
         Number of axels.
         Weight capacity of vehicle.

         d) A list of all licensed qualified truck drivers. Drivers should be able to provide their driver's license upon request.
         e) Instances where rail haulers are being used, copies of all applicable permits and licenses for the load on/off site location(s) and/or transfer location(s) will be provided.
      4) Contractor shall provide the following documentation for each disposal/recycling facility:
         a) Name and address of waste disposal facility where hazardous waste materials are to be disposed including:

         Contact person and telephone number.
         Copy of state license and permit.
         Disposal facility permits.

         b) A signed statement from an authorized representative of the recycling or disposal facility stating the percentage of recycled materials for each of the components including the estimated percentage pertaining to each component which has no recycling value.
      5) Safety Precautions -Personnel:
         a) List safety equipment and clothing to be used per OSHA regulations.
         b) A description of emergency procedures to be followed in case of physical contact, ingestion, inhalation, etc.
      6) Emergency Spills:
         a) A description of methods to be used for containment.
         b) A description of methods to be used for collection and disposal.
         c) A description of methods and materials to be used to restore areas harmed by emergency spills.
      7) Lead-containing Paint Management:
         a) A description of the work procedures that will be utilized to minimize the generation of airborne lead into the environment.

8) In addition, the Plan will provide:
   a) Specimen copy of Uniform Hazardous Waste Manifest form.
   b) Copy of EPA “Notice of Hazardous Waste Activity” form.
   c) Copy of forms and permits required by federal, state, and local agencies.
   d) Sample of disposal label(s) to be used.

PART 2 - PRODUCTS

2.01 TOOLS AND EQUIPMENT

A. Disposal Bags: Provide 6 mil (0.15 mm) thick leak-tight polyethylene bags.

B. DOT Hazardous Waste Disposal Drums: Provide DOT 17-H Open -Top Drums (55-gallon) in accordance with DOT title 49 CFR Parts 173, 177, 178, and 179.

C. Fiber Board Drums, cylindrical containers manufactured from sturdy fiber board will be utilized for storage transportation of electrical equipment.

D. PCB containing ballasts shall be place in 55-gallon drums with vermiculite packing. The drums will be sealed and labeled as containing hazardous PCB waste. The label shall also include the name and address of the parcel. However, if ballasts are damaged, they shall be stored prior to disposal in accordance with 40 CFR 761.65.

E. DOT Hazardous Waste Labels: in accordance with DOT regulations Title 49 CFR parts 173, 177, 178, and 179.

F. Corrugated “Gaylord” Boxes with the use of a liner will be used to store and transport bulk materials which will be kept on pallets during storage and transportation.

G. Materials to be used to restore areas harmed by emergency spills.

H. Safety equipment and associated clothing to be used.

I. Hazardous material manifests and other related forms required by state and local agencies.

J. Utilize equipment to recover refrigerant that is appropriate for the following:
   1. Type of system encountered.
   2. Refrigerant type
   3. Achieving IEPA-mandated vacuum levels

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

A. The Contractor shall train each employee performing Work prior to the time of initial job assignment in accordance with applicable regulations.

B. Respiratory Protection Program:
   1. The Contractor shall furnish each employee required to wear a negative pressure respirator or other appropriate type with a respirator fit test at the time of initial fitting and at least every 6 months thereafter if required by 29 CFR 1910.1025.

2. The Contractor shall establish and implement a respiratory protection program as required by 29 CFR 1910.134 and 29 CFR 1926.62.

C. Hazard Communication Program: Establish and implement a Hazard Communication Program as required by 29 CFR 1910.1200.

D. Post warning signs at entry points to hazardous Work area, as necessary.

E. Segregate, package, label, transport and dispose of Hazardous Waste in accordance with DOT, EPA, state, and local regulations.

F. Scheduling/Sequencing of the demolition and/or abatement is to be coordinated by the Contractor.

G. Contractor shall decontaminate all residues from all surfaces where pre-existing leaks occur. Contractor shall decontaminate all surfaces where leaks occur during the removal and disposal process.

H. Extreme care shall be used to prevent leakage of chemicals, liquid wastes, refrigerant, etc. during removal processes.

I. Do not mix potentially hazardous waste streams or different refrigerants in the same recovery vessel. Where feasible, separate each type of hazardous waste from other types of hazardous wastes and construction waste.

J. All electrical circuits shall be de-energized and locked out prior to removal of ballasts. Contractor shall provide temporary lighting as needed.

K. The Contractor shall identify the location and Commissionership of all on-site transformers. The contents from each transformer shall be characterized for PCB content by the Contractor for proper disposal.

L. The Contractor shall determine location and type of each radiological waste. The Contractor shall make all arrangements from the proper decommissioning of equipment and disposal of related materials.

3.02 HAZARDOUS WASTE DESIGNATION

A. Where not otherwise designated by the Owner as hazardous waste, characterize applicable suspect waste products by conducting representative TCLP testing and referencing 40 CFR Part 261.

B. Work shall include characterization and proper disposal of any soot contained within boilers, incinerators, or stacks; maintenance fluids within heating/cooling equipment; hazardous chemicals; storage tanks; or lead content of paint present.

C. Fluids from transformers, electrical equipment, hydraulic equipment, etc. shall be characterized for PCB content per 40 CFR Part 761.

D. Representative sampling of waste products will be in accordance with EPA Document SW 846.

E. TCLP test analysis will be performed in accordance with EPA Method 1311.

F. Radiological Wastes shall be classified in accordance with the NRC operating agreement.

3.03 HAZARDOUS WASTE

A. The following waste products are designated by the Owner as non-salvageable and as Hazardous Waste Types:
   1. Waste Type A: PCB waste.
      a. PCB-containing ballasts from fluorescent light fixtures.
      b. PCB-containing electrical transformers and switch gears.
      c. PCB-containing hydraulic fluid, which can be found within but not limited to the following equipment:
         1) Hydraulic-lift elevators
         2) Hydraulic trash compactors
         3) Hydraulic loading dock lifts
         4) Waste Type B: Mercury-containing waste.
            a) Thermostats with mercury switches. Individually bagged mercury-containing thermostats.
            b) Fluorescent and mercury-vapor lamps/bulbs.
            c) Thermometers.
            d) Gauges and regulators (including those found in waste medical equipment).
            e) Elemental mercury.
         5) Waste Type C: Medical Waste.
            a) Used and unused sharps.
            b) Contents of bio-hazard waste containers, including drums and bins.
            c) Surplus medical supplies.
            d) Contents of medical devices, such as dialysis machines, ventilators.
            e) Human and animal pathological wastes including tissue samples stored on slides and preserved and unpreserved specimens.
         6) Waste Type D: Chemical Wastes.
            a) Cleaning chemicals such as bleach, ammonia, carpet cleaner, etc.
            b) Laboratory chemicals such as xylenes, benzene, acetic acid, dyes, formaldehyde, etc.
            c) Boiler and water treatment chemicals.
            d) Developing chemicals associated with the processing of x-rays and other photographic images, both used and virgin product.
            e) Unused medicine.
            f) Building maintenance chemicals such as paint, adhesives, glazing compound, caulk compound, roofing materials, concrete binder, resurfacing compounds, etc.
            g) Equipment maintenance chemicals such as lubricants, solvents, and oils.
            h) Fuels, such as gasoline, No. 2 Fuel Oil, and diesel fuel.
            i) Equipment and vessels containing chemicals, such as fire extinguishers, gas cylinders, batteries, and film developing equipment.
         7) Waste Type E: Refrigerants and CFCs
            a) Refrigerators and freezers.
            b) Air Conditioning units.
            c) Cryogenic Supplies.
            d) Bulk storage of refrigerants.
         8) Waste Type F: Equipment
            a) Mechanical equipment, such as compressors, generators, compressors, water conditioning vessels, motors, etc.
            b) Electrical equipment such as televisions, computers, monitors, current controllers, etc.

c) Medical equipment such as vital signs monitors, incubators, crash carts, MRIs, ultrasounds, ventilators, dialysis machines, etc.

9) Waste Type G: Radiological Waste
   a) Drummed Radioactive waste.
   b) Equipment that uses a radioactive source including x-rays, mammograms, CAT scans, electron microscopes, scintillation spectrometers, etc.
   c) Smoke detectors.
10) 1Waste Type H: Lead-containing waste.
   a) Lead paint (liquid or containerized paint wastes).
   b) Lead-contaminated wastes (paint chips, loose debris, etc.).
11) 1Waste Type I: Other
   a) Drums of hazardous waste generated prior to the start of the contract.
   b) Wastes accumulated in Crock Pots.
   c) Lab trap drain wastes.
   d) Soot encountered in stacks, incinerators, or associated equipment.

3.04 HAZARDOUS WASTE PACKAGING AND LABELING

A. Package each segregated Hazardous Waste Type in containers for offsite removal and disposal/recycle. IMPORTANT: Do Not Mix Waste Streams.
   1. Waste Types A, B, C and I, as applicable:
      a. Package in DOT 17-H Open-Top Drums polyethylene disposal bag liners in accordance with 49 CFR Parts 171-180.
      b. Fill to capacity only with waste.
      c. Install gasket on lid, apply lock ring, and seal.
      d. Apply Hazardous Waste Label to drum side.
      e. Enter required DOT shipping data per applicable regulations.
      f. Adjacent to each label, enter the date indicating when waste was first placed in each drum.
         1) Waste Type D - Chemical Wastes:
            a) Package other wastes as applicable in accordance with Hazardous Wastes Resource Conservation and Recovery Act (RCRA), Title 40, Parts 260-299 of the Code of Federal Regulations. Overpack drums shall be required as necessary to complete Work.
         2) Waste Type E - Refrigerants and CFCs:
            a) Reference Section 3.8 for details.
         3) Waste Type F - Equipment:
            a) Package all equipment in closable and lockable containers for off-site removal. Ensure that all liquids, gases or other regulated materials are removed from equipment, as applicable, prior to placement in containers. Comply with all DOT regulations for each type of equipment.
         4) Waste Type G - Radiological Wastes:
            a) All radiological equipment shall be packaged and shipped in accordance with 32 IAC 341 regulations.
         5) Waste Type H - Lead-containing Wastes:
            a) Handle, store, transport, and dispose lead or lead-contaminated waste in accordance with 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, and 40 CFR 265.
            b) Comply with land disposal restriction notification requirements as required by 40 CFR 268.
            c) Non-hazardous waste may be disposed of as demolition debris (general refuse).

d) Submit results of TCLP testing to the EC prior to disposal.

B. Sealed and Labeled Containers: maintain all containers in a continuously sealed condition after they have been sealed.
1. Do not reopen sealed containers.
2. Do not place additional waste in sealed containers.

3.05 TEMPORARY STORAGE

A. Partially filled containers of hazardous waste may be stored at the Work site for intermittent packaging provided that the following conditions are met:
1. Each container is properly labeled when it is first placed in service, including the date;
2. Each container remains closed at all times except when compatible waste types are added;
3. Each Work site must be secured and/or attended at all times; and
4. When moved from site to site, each container remains within the geographic boundaries of the facility without moving nor crossing public access highways; and
5. UNDER NO CIRCUMSTANCES WILL THE ACCUMULATED WASTE REMAIN ON SITE BEYOND NINETY (90) DAYS FROM THE DAY THAT ACCUMULATION IN THE CONTAINER WAS INITIATED.

3.06 REMOVAL OF HAZARDOUS WASTES

A. Immediately seal containers of hazardous waste as each the container is filled. Remove containers of hazardous waste from the Work site within forty-eight (48) hours of being filled.

B. Transporting filled containers from the Work site to an approved disposal site or recycling center utilizing licensed hauler.

C. All fluorescent light ballasts shall be removed. Those labeled “NO PCBs” shall be packaged separately from those which indicate PCB or do not indicate PCB condition.

D. Subject to the Lake Land Representative’s approval, the Contractor shall arrange with the electric utility provider for the removal of transformers which are owned by the utility provider from the site.

E. Subject to the Commission Representative’s approval, the contractor shall remove and dispose of all transformers which are not owned by the electric utility provider.

F. Continuously maintain custody of all hazardous material generated at the Work site including security, short-term storage, transportation and disposition until custody is transferred to an approved disposal site or recycling center.

G. Do not remove, or cause to be removed, hazardous waste from the Property without a legally executed Uniform Hazardous Waste manifest.

H. At completion of hauling and disposal of each load, submit copy of waste manifest, chain of custody form, and landfill receipt to the Lake Land Representative.

3.07 RECYCLING AND RECOVERY

A. Turn over waste which contains materials for which recovery and/or recycling is possible to an approved recycling center. Materials subject to recycling include, but are not limited to:

1. Fluorescent light tubes.
2. Lead acid batteries.
3. Combustible lead-based painted building components and lead-based paint chips.
4. Televisions and computers.
5. Ethylene Glycol or other related fluids found within cooling systems.
6. Mechanical and medical equipment.
7. Non-PCB-containing oils.
8. Fuel.
9. Maintenance chemicals.
10. Gas cylinders and fire extinguishers.
11. Lead Shielding Materials.

3.08 STORAGE & TRANSPORTATION OF REFRIGERANTS / CFCS

A. Use proper storage vessel when recovering refrigerants.
   1. IDOT containers meeting the ARI standard.
   2. Container working pressure rating must comply with IDOT requirements (49 CFR).
      a. For Refrigerant HCFC-22: Minimum working pressure rating of 260 psig.
      b. For Refrigerant CFC-11 (Low-Pressure Refrigerants): Drums of steel construction and designated as 17C or 17E.
         1) Open top and plastic drums shall not be used.
         2) Previously filled, disposable cylinders shall not be used to store or transport recovered refrigerants.

B. All recovery vessels shall be visually inspected by the Contractor prior to filling. The Contractor shall inspect and provide the following upon request:
   1. Verification of proper IDOT specification.
   2. Pressure rating verification.
   3. Current hydrostatic test date.
   4. Cylinder shall be free of surface dents and imperfections.

C. Provide required labeling for recovery vessel.

D. Return all refrigerant to reclamation facilities to be reprocessed to ARI 700 1988 Standards or dispose in an approved facility.

E. The Contractor shall provide the Commission representative with required documents for CFC Refrigerant/Reclamation within ten (10) days.

3.09 REMOVAL OF NON-HAZARDOUS WASTE MATERIAL

A. Transport and legally dispose of non-hazardous waste products, materials, residues and refuse at a location not on City’s property.

B. Non-hazardous waste products, materials, residues and refuse include, but are not necessarily limited to:
   1. Materials which are determined to be non-hazardous wastes through objective sampling in accordance with EPA Document SW-846 and laboratory analysis in accordance with EPA Method 1311.
   2. Emptied hazardous material containers: containers holding a material with constituents listed on the SDS as hazardous.

a. When a container is emptied of its hazardous contents by pouring or scraping so that less than one inch of material remains in the bottom of the container, the container is considered “empty” and is not in itself a hazardous waste.
b. Emptied hazardous material containers may be disposed of as construction debris waste (i.e. non-hazardous).
    1) Personal protective clothing and safety equipment with de minimis or trace contamination.

C. Keep premises in a clean and orderly condition during performance of all Work.

D. Place non-hazardous construction debris wastes in secure containers for local landfill disposal on a daily basis.

END OF SECTION 02 86 13

SECTION 03 30 53—MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Miscellaneous concrete elements, including equipment pads, light pole bases, flagpole bases, and other concrete elements indicated.

1.2 REFERENCE STANDARDS

A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).

B. ACI 301 - Specifications for Structural Concrete; 2016.

C. ACI 302.1R - Guide to Concrete Floor and Slab Construction; 2015.

D. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).

E. ACI 305R - Guide to Hot Weather Concreting; 2010.

F. ACI 306R - Guide to Cold Weather Concreting; 2016.

G. ACI 308R - Guide to External Curing of Concrete; 2016.

H. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014 (Errata 2017).

I. ACI 347R - Guide to Formwork for Concrete; 2014.

J. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2016.

K. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2017.

L. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2016, with Editorial Revision (2016).

M. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2017a.

N. ASTM C150/C150M - Standard Specification for Portland Cement; 2017.

O. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2016.

P. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2011.

Q. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete; 2017a.

R. ASTM C1116/C1116M - Standard Specification for Fiber-Reinforced Concrete; 2010a (Reapproved 2015).

S. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types); 2004, with Editorial Revision (2013).

1.3 SUBMITTALS

A. See Section 01 33 23 – Shop Drawings, Product Data & Samples, for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

C. Mix Design: Submit proposed concrete mix design a minimum of 15 days prior to start of work in this section.
1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.
2. Do not begin concrete production until Mix Design has been approved.

1.4 QUALITY ASSURANCE

A. Testing Agency: Board may engage an independent testing agency to perform initial quality control testing.
1. Allow access by Board's testing agency to material stockpiles and facilities at all times.
2. Materials and installed work may require testing and retesting at any time during the progress of the work.
3. Retesting of rejected materials and installed work shall be done at the Contractor's expense.

B. Source Limitations: Obtain each type or class of cementitious materials of the same brand from the same manufacturer's plan, each aggregate from one source, and each admixture from the same manufacturer.

C. Perform work of this section in accordance with ACI 301 and ACI 318.

D. Follow recommendations of ACI 305R when concreting during hot weather.

E. Follow recommendations of ACI 306R when concreting during cold weather.

PART 2 - PRODUCTS

2.1 FORMWORK (IF NECESSARY)

A. Formwork Design and Construction: Comply with guidelines of ACI 347R to provide formwork that will produce concrete complying with tolerances of ACI 117.

B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand project conditions without distortion in excess of permitted tolerances.
1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.
2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
3. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

C. Form Ties: Removable or snap-off type, galvanized metal or plastic, fixed length, cone type, with waterproofing washer, free of defects that could leave holes larger than 1 inch in concrete surface.

D. Form Release Agent: Capable of releasing forms from hardened concrete without staining or discoloring concrete or forming bugholes and other surface defects, compatible with concrete and form materials, and not requiring removal for satisfactory bonding of coatings to be applied.
1. Provide form-release agent with rust inhibitor for steel form-facing materials.

2.2 REINFORCEMENT (AS NECESSARY)

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
1. Type: Deformed billet-steel bars.
2. Finish: Unfinished, unless otherwise indicated.

B. Steel Welded Wire Reinforcement (WWR): Plain type, ASTM A1064/A1064M.

C. Reinforcement Accessories:
1. Tie Wire: Annealed, minimum 16 gage, 0.0508 inch.
2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
3. Provide stainless steel, galvanized, plastic-, or plastic-coated steel components for placement within 1-1/2 inches of weathering surfaces.

2.3 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.

B. Fine and Coarse Aggregates: ASTM C 33.
1. Acquire aggregates for entire project from same source.

C. Lightweight Aggregate: ASTM C330/C330M.

D. Water: Potable: ASTM C94/C94M

E. Use of Calcium Chloride in concrete is not permitted.

2.4 ACCESSORY MATERIALS

A. Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2-inch-deep sealant pocket after removal.
1. Material: ASTM D1751, cellulose fiber.

B. Structural Fiber Reinforcement: ASTM C1116/C1116M.
1. Fiber Type: Carbon Steel Fiber; Type 1, cold drawn wire.
2. Fiber Length: 1.5-inch, nominal.

C. Curing Compound, Non-dissipating: Liquid, membrane-forming, clear, non-yellowing acrylic; complying with ASTM C309, Type 1, Class B.

D. Moisture-Retaining Sheet: ASTM C171.
1. Curing paper, regular.
2. Polyethylene film, clear, minimum nominal thickness of 0.0040 inch.

3. White-burlap-polyethylene sheet, weighing not less than 10 ounces per linear yard, 40 inches wide.

E. Fill: Well graded, clean, crushed stone or gravel; State of Illinois, Department of Transportation, Gradation: CA6

2.5 CONCRETE MIX DESIGN

A. Ready-Mixed Concrete: Comply with ASTM C94/C94M.
1. Compressive Strength: 3,000 psi

B. Fiber Reinforcement: Add to mix at rate recommended by manufacturer, but not more than 25 pounds per cubic yard.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.2 PREPARATION - SLAB ON GRADE PATCHING

A. Align saw-cuts in a pattern acceptable to Architect/Engineer of Record.

B. Fill to underside of existing slab with specified fill material over properly placed and compacted backfill (if required). Place in 4" layers and thoroughly hand compact to provide firm substrate upon which to place slabs.

C. Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches. Seal joints, seams, and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.
1. Vapor Retarder Over Granular Fill: Install compactible granular fill before placing vapor retarder as indicated on the drawings. Do not use sand.

D. Apply concrete bonding agent to cut slab edge immediately before placing concrete.

3.3 PREPARATION - GENERAL

A. Formwork: Comply with requirements of ACI 347R. Fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

B. Verify that forms are clean and free of rust before applying release agent.

C. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in accordance to bonding agent manufacturer's instructions.
1. Use latex bonding agent only for non-load-bearing applications.

D. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

E. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches. Seal joints, seams, and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.4 ERECTION OF FORMWORK

A. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.

B. Install sufficient lengths of forms to allow continuous progress of the work and so that forms can remain in place at least 24 hours after concrete placement.

C. Construct formwork to maintain tolerances required by ACI 117, unless otherwise indicated.

D. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.

E. Apply form release agent on formwork in accordance with manufacturer's recommendations.
1. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings that are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.

3.5 FORMS FOR EXPOSED CONCRETE:

A. Drill forms to suit ties used and to prevent leakage of concrete mortar around tie holes. Do not splinter forms by driving ties through improperly prepared holes.

B. Do not use metal cover plates for patching holes or defects in forms.

C. Provide sharp, clean corners at intersecting planes, without visible edges or offsets. Back joints with extra studs or girts to maintain true, square intersections.

D. Use extra studs, walers and bracing to prevent bowing of forms between studs and to avoid bowed appearance in concrete. Do not use narrow strips of form material which will produce a bow.

E. Assemble forms so they may be readily removed without damage to exposed concrete surfaces.

F. Form molding shapes, recesses, and projections with smooth-finish materials, and install in forms with sealed joints to prevent displacement.

3.6 INSTALLING REINFORCEMENT

A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

C. Verify that anchors, seats, plates, reinforcement, and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

D. Install accessories in accordance with manufacturer's instructions, so they are straight, level, and plumb. Ensure items are not disturbed during concrete placement.

E. Install waterstops in accordance with manufacturer's instructions, so they are continuous without displacing reinforcement.

3.7 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Place concrete for floor slabs in accordance with ACI 302.1R.

C. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

D. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

E. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.8 FORM REMOVAL

A. Formwork may be removed 48 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.

C. Store removed forms to prevent damage to form materials or to fresh concrete. Discard damaged forms.

3.9 CONCRETE TOLERANCES

A. Maximum Variation of Surface Flatness:
   1. Exposed Concrete Floors: 1/4 inch in 10 feet.
   2. Under Seamless Resilient Flooring: 1/4 inch in 10 feet.
   3. Under Carpeting: 1/4 inch in 10 feet.

B. Correct the slab surface if tolerances are less than specified.

C. Formed concrete having any dimension smaller or greater than required, and outside the specified tolerance limits, will be considered deficient in strength and subject to additional testing.

D. Formed concrete having any dimension greater than required will be rejected if the appearance or function of the structure is adversely affected, or if the larger dimensions interfere with other construction. Repair or replace rejected concrete as required to meet the construction conditions. When permitted, accomplish the removal of excessive material in a manner to maintain the strength of the section without affecting function and appearance.

3.10 CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Unformed Surfaces: After striking off and consolidating concrete, smooth the surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust the floating to compact the surface and produce a uniform texture.
   1. After floating, test surfaces for trueness with a 10' straight-edge. Distribute concrete as required to remove surface irregularities, and refloat repair areas to provide a continuous, smooth finish.
   2. After completion of floating and when excess moisture or surface sheen has disappeared, complete surface finishing by two steel troweling until all marks are eliminated and ringing sound as produced by the trowel is moved over the surface.

C. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.

D. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
   1. As-Cast Form Finish: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.
   2. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.

E. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
   1. Surfaces to Receive Thick Floor Coverings: "Wood float" as described in ACI 302.1R; thick floor coverings include quarry tile, ceramic tile, and Portland cement terrazzo with full bed setting system.
   2. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI 302.1R; thin floor coverings include carpeting, resilient flooring, seamless flooring, resinous matrix terrazzo, thin set quarry tile, and thin set ceramic tile.

3.11 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete, but not less than 7 days.

C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.

D. Surfaces Not in Contact with Forms:
   1. Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.
   2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than seven days by water ponding, water-fog spray, or saturated burlap.
      a. Ponding: Maintain 100 percent coverage of water over floor slab areas, continuously for 4 days.
      b. Spraying: Spray water over floor slab areas and maintain wet.
      c. Saturated Burlap: Saturate burlap-polyethylene and place burlap-side down over floor slab areas, lapping ends and sides at least 12 inches; maintain in place.
   3. Final Curing: Begin after initial curing but before surface is dry.

a. Moisture-Retaining Sheet: Lap strips not less than 3 inches and seal with waterproof tape or adhesive; secure at edges.
b. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

E. Repair of Formed Surfaces:
1. Repair exposed-to-view formed concrete surfaces, where possible, that contain defects which adversely affect the appearance of the finish. Remove and replace the concrete having defective surfaces if the defects cannot be repaired to the satisfaction of the Architect/Engineer of Record. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, and holes left by the rods and bolts; fins and other projections on the surface; and stains and other discolorations that cannot be removed by cleaning.
2. Repair concealed formed concrete surfaces, where possible, that contain defects that adversely affect the durability of the concrete. If defects cannot be repaired, remove, and replace the concrete having defective surfaces. Surface defects, as such, include cracks in excess of 0.01" wide, cracks of any width and other surface deficiencies which penetrate to the reinforcement or completely through non-reinforced sections, honeycomb, rock pockets, holes left by tie rods and bolts, and spalls, except minor breakage at corner.
3. Repair and patch defective areas with cement mortar immediately after removal of forms, but only when acceptable by the Architect/Engineer of Record.
4. Cut out honeycomb, rock pockets, voids over 1/2" diameter, and holes left by tie rods and bolts, down to solid concrete but, in no case, to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Before placing the cement mortar, thoroughly clean, dampen with water, and brush-coat the area to be patched with neat cement grout.

3.12 FIELD QUALITY CONTROL

A. Initial Testing: The Board may engage an independent testing agency to perform field quality control tests, if required, and as specified in Section 01 40 00 - Quality Requirements.

B. Provide free access to concrete operations at project site and cooperate with appointed firm.

C. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.

D. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate the specified concrete strengths and other characteristics have not been attained in the structure, as directed by the Architect/Engineer of Record. The Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

E. Defective Work: Concrete work which does not conform to the specified requirements, including strength , tolerances, and finishes, shall be corrected at the Contractor’s expense without extension of time . The Contractor shall also be responsible for the cost of corrections to any other work affected by or resulting from corrections to the concrete work.

3.13 PROTECTION

A. Protect concrete from damage until acceptance of work.

B. Do not permit traffic over unprotected concrete floor surface until fully cured (minimum 14 days).

C. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

END OF SECTION 03 30 53

SECTION 03 35 43 - POLISHED CONCRETE FINISHING

PART 1 - GENERAL

1.1 WORK INCLUDES

A. Base Bid:

1. General Contractor shall provide all labor, materials, equipment, and services necessary or incidental to the completion of all work of this section as shown on the drawings, herein specified, or otherwise required.
   a. Polished concrete finishing at revolving door sill.
   b. Concrete for polished concrete, including concrete materials, mixture design, placement procedures, initial finishing, and curing is specified in Section 033000 "Cast-in-Place Concrete."

B. Alternate Bid: None

C. Related Requirements:

1. Section 03 53 00 – Concrete Topping

1.2 DEFINITIONS

A. Design Reference Sample: Sample designated by Architect in the Contract Documents that reflects acceptable surface quality and appearance of polished concrete.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Polishing Schedule: Submit plan showing polished concrete surfaces and schedule of polishing operations for each area of polished concrete before start of polishing operations. Include locations of all joints, including construction joints.

C. Material Certificates: For each of the following, signed by manufacturers:

1. Repair materials.
2. Stain materials.
3. Liquid floor treatments.

1.4 QUALITY ASSURANCE

A. Field Sample Panels: After approval of verification sample and before casting concrete, produce field sample panels to demonstrate the approved range of selections made under Sample submittals. Produce

a minimum of three sets of full-scale panels, approximately 48 by 48 inches (1200 by 1200 mm) minimum, to demonstrate the expected range of finish, color, and appearance variations.

1. Locate panels as indicated or, if not indicated, as directed by Architect.
2. Maintain field sample panels during construction in an undisturbed condition as a standard for judging the completed Work.
3. Demolish and remove field sample panels when directed.

1.5 FIELD CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

2.1 LIQUID FLOOR TREATMENTS, CON-1

A. Penetrating Liquid Floor Treatments for Polished Concrete Finish: Clear, waterborne solution of inorganic silicate or siliconate materials and proprietary components; odorless; that penetrates, hardens, and is suitable for polished concrete surfaces.

1. Manufacturers:
   a. Advanced Floor Systems; RetroPlate 99
   b. W.R. Meadows; Liqui Hard
   c. Prosoco; Consolidek LS

2.2 EQUIPMENT TO BE USED FOR INSTALLATION

A. Floor Grinder: Concrete Polishing Solutions, HTC, Sase, (or similar) model as determined by installer to perform required grinding and polishing of concrete floor.

B. Vacuum System: Concrete Polishing Solutions, HTC, Sase, (or similar) model as determined by installer to perform required dust extraction during grinding and polishing of concrete floor.

C. Diamond Tooling for Coating Removal, Initial Grinding, and Preparing Floor for Polishing as recommended by the Floor Grinder manufacturer: As required by installer to perform coating removal, initial grinding, and preparing floor for polishing.

D. Diamond Tooling for Polishing Concrete recommended by the Floor Grinder manufacturer: As required by installer to perform concrete polishing for finish indicated.

E. Burnishers and Buffers: As required by installer to achieve the desired finish.

2.3 BUFFING LIQUID GUARD

A. UV stable, non-toxic, non-flammable, low odor, copolymer surface treatment used in the burnishing and buffing phase of polished concrete surfaces to improve surface sheen, and increase resistance to abrasion, water, and chemical attack.

PART 3 - EXECUTION

3.1 POLISHING

A. Polish: Level 2: Low sheen, 400 grit.

B. Apply polished concrete finish system to cured and prepared slabs to match accepted mockup.

1. Machine grind floor surfaces to receive polished finishes level and smooth.
2. Apply reactive stain for polished concrete in polishing sequence and according to manufacturer's written instructions.
3. Apply penetrating liquid floor treatment for polished concrete in polishing sequence and according to manufacturer's written instructions, allowing recommended drying time between successive coats.
4. Apply penetrating stain for polished concrete in polishing sequence and according to manufacturer's written instructions.
5. Continue polishing with progressively finer-grit diamond polishing pads to gloss level, to match approved mockup.
6. Control and dispose of waste products produced by grinding and polishing operations.
7. Neutralize and clean polished floor surfaces.

END OF SECTION 03 35 43

SECTION 03 53 00 - CONCRETE TOPPING

PART 1 – GENERAL

1.1 WORK INCLUDED

A. Contractor shall provide all labor and materials:

1. Floor preparation and installation of floor levelor product as shown on the drawings and specified in this section.

2. This work is as necessary for proper installation of tile carpeting and resilient flooring at the Rooms 040, 104, 105, and 110.

1.2 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract, and other related construction documents such as Division 01 specifications apply to this Section.

B. Specified Elsewhere:
1. Section 09 30 13 – Ceramic Tiling
2. Section 09 65 43 - Linoleum Flooring

1.3 SUMMARY

A. This section includes trowel-grade repair mortar for horizontal, vertical and overhead applications for exterior and interior concrete on all grades.

1. ARDEX FP™ Form & Pour Concrete Repair Mortar

2. ARDEX P 71™ PRIMER

3. ARDEX BONDING & ANTI-CORROSION AGENT™

1.4 REFERENCES

A. ASTM C 109, Standard Compressive Strength of Hydraulic Cement Mortars

B. ASTM C 293, Flexural Strength of Concrete

C. ASTM C 469, Static Modulus of Elasticity and Poisson's Ratio of Concrete in Compression

D. ASTM C 157, Length Change of Hardened Hydraulic-Cement Mortar and Concrete

E. ICRI Technical Guideline No. 03732 Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays

F. ICRI Technical Guideline No. 03730 Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion

1.5 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Material Safety Data Sheets.

1.6 QUALITY ASSURANCE

A. Manufacturer's Qualifications: The manufacturer shall be a company with at least five years experience and regularly engaged in the manufacture and marketing of products specified herein.

B. Installer Qualifications: Installation of the ARDEX product must be completed by a factory-trained applicator using mixing equipment and tools approved by the manufacturer. Please contact ARDEX Engineered Cements (724) 203-5000 for a list of recommended installers.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver products in original unopened, undamaged packaging, labeled with product identification, manufacturer, batch number and shelf life.

B. Store products in a dry area with temperature maintained between 50° and 85° F (10° and 29° C) and Protect from direct sunlight.

C. Handle products in accordance with manufacturer's printed recommendations.

1.8 PROJECT CONDITIONS

A. Do not install material below 50° F (10° C) surface and air temperatures. These temperatures must also be maintained during and for 48 hours after the installation of products included in this section.

PART 2 – PRODUCTS

2.1 REPAIR MORTAR

A. Formable, pourable, pumpable cement-based structural repair mortar for horizontal, vertical and overheard applications for exterior and interior concrete on all grades.

1. Acceptable Products:

a. ARDEX FP™ as manufactured by ARDEX Engineered Cements, 400 Ardex Park Drive, Aliquippa, PA 15001 USA 724-203-5000

2. Performance and Physical Properties: Meet or exceed the following values in a neat application for material cured at 70° F (21° C) and 50% relative humidity:

    a. Application; Trowel
    b. Working Time: 20 – 40 minutes.
    c. Compressive Strength: 5,500 psi at 28 days, ASTM C109.
    d. Flexural Strength: 900 psi at 7 days 1,050 psi at 28 days, ASTM C293.
    e. Modulus of Elasticity in compression: 3.6 x 106 at 28 days, ASTM C469
    f. Length of Change: less than 0.09% at 28 days, ASTM C157, air cured.
    g. Low-slump, non-sagging
    h. Color: Concrete gray.
    i. Combustibility: Non-combustible, both before and after use.

PART 3 – EXECUTION

3.1 PREPARATION

A. General: Prepare substrate in accordance with manufacturer's instructions. Prior to proceeding with any repair, please refer to the International Concrete Repair Institute's ICRI 03730 Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion; ICRI 03732 Guideline for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays; and the American Concrete Institute's ACI 546R-04 Concrete Repair Guide for general guidelines for concrete repair.

1. All concrete and masonry substrates must be sound, solid, dry, and completely free of all oil, grease, dirt, curing compounds and any substance that might act as a bond breaker. Overwatered, frozen or otherwise weak concrete surfaces must also be cleaned down to sound, solid concrete by mechanical methods such as scarifying, scabbling or similar in accordance with ICRI 03732 before priming. Acid etching and the use of sweeping compounds and solvents are not acceptable.

2. The repair area must be saw cut in a basic rectangular shape at least 1/2" (12 mm) in depth. The cuts should be made at 90° angle, and should be slightly keyed. Chip out the concrete inside the cuts to a minimum depth of 1/2" (12 mm) until the area is squared or box shape.

3. Mechanically prepare surface to obtain an exposed aggregate surface with a minimum surface profile of approximately 1/16" (1.5 mm).

4. For cases with exposed reinforcing steel, mechanically clean the steal to remove all rust and any other contaminants in accordance with ICRI 03730. Prime the steel with ARDEX Bonding & Anti-Corrosion Agent™ prior to proceeding with repair.

B. Joint Preparation

1. Moving Joints and Cracks – honor all expansion and isolation joints up through the ARDEX FP™ A flexible sealing compound suitable for the application may be installed. ARDEX ARDISEAL™ RAPID PLUS may be installed for interior applications only.

2. Saw Cuts and Control Joints – fill all non-moving joints and cracks with ARDEX ARDIFIX™ Joint Filler.

3.2 APPLICATION OF ARDEX FP™:

A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.

B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas and landscaping from contact due to mixing and handling of materials.

C. Mixing: Comply with manufacturer's printed instructions and the following.

1. Precondition components to temperature of 70° plus or minus 5° F (21° plus or minus 2.5° C) prior to mixing.

2. Pre-dampen the inside of a 5 gallon pail or inside of a clean mortar mixer, and remove any excess water.

3. Add 5-6 pints (2.37 L TO 2.84 L) of clean potable water per 50-pound (22.7 kg) bag.

4. Slowly add 1/3 of a 50 lb. (22.7 kg) bag. Once material is blended in, add the next third and so on until all material is added.

5. Mix using a ½" to ¾" (12 to 19 mm) low speed heavy-duty mixing drill with a heavy gauge square box (butterfly) mixing paddle. Forced action mortar mixers are also suitable. Mix to a uniform, lump-free consistency. Do not overwater.

6. For application depths greater than 4 inches, add up to 25 pounds (11.3 kg) clean, uniformly graded, saturated-surface-dry 3/8-inch (.95 mm) aggregate per bag, as directed by manufacturer.

D. Application: Comply with manufacturer's printed instructions and the following.

1. Do not apply in freezing conditions or during precipitation.

2. Comply with manufacturer’s guides for hot and cold weather application.

3. Primer: Dampen substrate to fill concrete pores with water. Remove ponding, glistening, or surface water (saturated surface dry).

4. Steel trowel the mortar to the desired finish once it takes its initial set.

5. Vibrate closed–form repairs to ensure intimate contact with the substrate, establish bond, and ensure proper consolidation. Avoid over-vibration.

E. Curing:

1. Keep surface damp for 48 hours with continuous light water-fogging or curing blanket.

2. If no coating or sealer is to be applied, a water-based curing compound meeting ASTM standard C309 may be used. Do not use solvent-based curing compounds.

3. Allow to cure a minimum 72 hours before applying any final coatings or sealers.

F. Cleaning: Remove excess material before material cures. If material has cured, remove using mechanical methods that will not damage substrate.

END OF SECTION 03 53 00

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Miscellaneous framing and sheathing.

B. Communications and electrical room mounting boards.

C. Concealed wood blocking, nailers, and supports.

D. Miscellaneous wood nailers, furring, and grounds.

1.2 REFERENCE STANDARDS

A. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2013.

B. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2016.

C. ASTM E2357 - Standard Test Method for Determining Air Leakage of Air Barrier Assemblies; 2017.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2017.

E. AWPA U1 - Use Category System: User Specification for Treated Wood; 2017.

F. PS 1 - Structural Plywood; 2009.

G. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; 2010.

H. PS 20 - American Softwood Lumber Standard; 2015.

I. SPIB (GR) - Grading Rules; 2014.

1.3 SUBMITTALS

A. See Section 01 33 23 – Shop Drawings, Product Data, & Samples.

B. Product Data: Provide technical data on wood preservative materials, application instructions, and fire-retardant treatment materials.

1.4 DELIVERY, STORAGE, AND HANDLING

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

B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. Species: Douglas Fir or Southern Pine, unless otherwise indicated.
   2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

C. Provide sustainably harvested wood; see Section 01 60 00 - Product Requirements for requirements.

2.2 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR), West Coast Lumber Inspection Bureau; WCLIB (GR), or Western Wood Products Association; WWPA (GR).

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19 at time of dressing and shipment for sizes 2 inches or less in nominal thickness.
   1. 2 Inches to 4 inches in Nominal Thickness: S-Dry or MC19.
   2. 1 Inch or Less in Nominal Thickness: Kiln-dried or MC15.

D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 1 or Construction Grade.
   2. Boards: No. 2.

2.3 CONSTRUCTION PANELS

A. Communications and Electrical Room Mounting Boards: MOD PS 1 A-D plywood; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.4 ACCESSORIES

A. Fasteners and Anchors: Provide size, type, material, and finish as indicated and as recommended by applicable standards and complying with Federal Standards.
   1. Metal and Finish: Stainless steel for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B. Subfloor Adhesives: Waterproof, air cure type, cartridge dispensed.

2.5 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
   1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.

2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Fire Retardant Treatment:
1. Interior Type A: AWPA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
a. Kiln dry wood after fire-retardant treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
b. All interior rough carpentry items are to be fire retardant treated.
c. Do not use fire-retardant treated wood in applications exposed to weather or where the wood may become wet.

PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.2 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by Chicago Building Code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.

D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

E. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

F. Provide the following specific non-structural framing and blocking:
1. Cabinets and shelf supports.
2. Wall brackets.
3. Handrails.
4. Grab bars.
5. Towel and bath accessories.

6. Wall-mounted door stops.
7. Chalkboards and marker boards.
8. Wall paneling and trim.
9. Joints of rigid wall coverings that occur between studs.

3.3 INSTALLATION OF CONSTRUCTION PANELS

A. Basic: Comply with the recommendations of APA Design/Construction Guide, Residential and Commercial, latest edition, of the American Plywood Association (APA). Provide thickness shown or, if not shown, provide as recommended by the APA for the spacing of supports and types of substrates involved in the Work.

B. Install with face grain across supports, using panels continuous over 2 or more spans with end joints between panels staggered and located over center of supports. Allow 1/8" spacing at panel ends and edges unless otherwise recommended by panel manufacturer.

C. Nail 6" o.c. along panel ends and 12" o.c. at intermediate supports using 6d common nails for panels 1/2" or less, 8d common nails for panels over 1/2" but less than 1" thick, and 8d ring shank or spiral thread nails or 10d common nails for panels 1" or more thick. For spans 48" or greater, space nails 6" o.c. at all supports.

D. Screw at 6” o.c. along panel edges and 12” o.c. at intermediate supports.

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

3.4 CLEANING

A. Waste Disposal:
1. Comply with applicable regulations.
2. Do not burn scrap on project site.
3. Do not burn scraps that have been pressure treated.
4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION 06 10 00

SECTION 06 20 23 - INTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014, with Errata (2016).

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.1; 2016, with Errata (2017).

1.2 SUBMITTALS

A. See Section 01 33 23 – Shop Drawings, Product Data & Samples for submittal procedures.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

C. Samples: Submit two samples of transparent finished wood trim 12 inch long.

1.3 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver interior finish carpentry materials only when environmental conditions comply with requirements specified for installation areas. If finish carpentry materials must be stored in other than the installation areas, store only where environmental conditions comply with requirements specified for installation areas.

B. Protect work from moisture damage. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
   1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
   2. Indication that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

C. Protect work from moisture damage.

PART 2 - PRODUCTS

2.1 FINISH CARPENTRY ITEMS

A. Interior Woodwork Items:
   1. Moldings, Bases, Casings, and Miscellaneous Trim for Transparent Finish: Northern hard white maple.
   2. Moldings, Bases, Casings, and Miscellaneous Trim for Opaque Finish: Poplar or birch.

2.2 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

B. Provide sustainably harvested wood, certified or labeled as specified in Section 01 60 00 - Product Requirements.

2.3 LUMBER MATERIALS

A. Solid Wood for Transparent Finishes: AWI Grade I plain sawn Northern hard white maple, selected for compatibility of color and grain from piece to piece.

B. Solid Wood for Opaque (Painted) Finishes: Paint grade poplar or birch.

2.4 FASTENINGS

A. Adhesive for Purposes Other Than Laminate Installation: Suitable for the purpose; not containing formaldehyde or other volatile organic compounds.

B. Fasteners: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.

C. Concealed Joint Fasteners: Threaded steel.

2.5 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

2.6 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 that matches surrounding surfaces and is of type recommended for the applicable finish.

D. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
   1. Transparent:
      a. System - 5, Varnish, Conversion.
      b. Stain: As selected by Architect/Engineer of Record.
      c. Sheen: Satin.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set and secure materials and components in place, plumb and level.

B. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

3.2 PREPARATION FOR SITE FINISHING

A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.

B. Site Finishing: See Section 09 91 23.

C. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.3 TOLERANCES

A. Maximum Variation from True Position: 1/16 inch.

B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION 06 20 23

SECTION 06 41 16 - PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plastic-laminate-clad architectural cabinets.
2. Cabinet hardware and accessories.
3. Wood furring, blocking, shims, and hanging strips for installing plastic-laminate-clad architectural cabinets that are not concealed within other construction.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.

C. Samples: For each exposed product and for each color and texture specified.

1.4 FIELD CONDITIONS

A. Environmental Limitations without Humidity Control: Do not deliver or install cabinets until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature and relative humidity at levels planned for building occupants during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of cabinets indicated for construction, finishes, installation, and other requirements.

B. Architectural Woodwork Standards Grade: Custom.

C. Type of Construction: Frameless

D. Door and Drawer-Front Style: Flush overlay.

E. High-Pressure Decorative Laminate: ISO 4586-3, grades as indicated or if not indicated, as required by quality standard.

1. Manufacturer: Formica
    a. Pattern: PLAM-01: 5793, Buff Elm

F. Exposed Surfaces:

1. Plastic-Laminate Grade: HGS
2. Edges: non-PVC tape, 0.018-inch minimum thickness, matching laminate in color, pattern, and finish
3. Pattern Direction: vertically for doors and fixed panels

G. Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, ISO 4586-3, grade to match exposed surface.

H. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:

1. As indicated by laminate manufacturer's designations.

2.2 WOOD MATERIALS

A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

1. Wood Moisture Content: 8 to 13 percent.

B. Composite Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.
1. Softwood Plywood: DOC PS 1, medium-density overlay.
2. Thermally Fused Laminate (TFL) Panels: Particleboard finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of ISO 4586.

2.3 CABINET HARDWARE AND ACCESSORIES

A. Cabinet Hardware: Provide cabinet hardware and accessory materials associated with architectural cabinets
1. Cabinet hardware:
    a. Manufacturer: Hafele
    b. Item no. 155.02.027, hole spacing: 128 mm

B. Frameless Concealed Hinges (European Type): ANSI/BHMA A156.9, B01602, 170 degrees of opening, self-closing.

C. Back-Mounted Pulls: ANSI/BHMA A156.9, B02011.

D. Wire Pulls: Back mounted, solid metal

E. Catches: Magnetic catches, ANSI/BHMA A156.9, B03141.

F. Shelf Rests: ANSI/BHMA A156.9, B04013; metal.

G. Door Locks: ANSI/BHMA A156.11, E07121.

H. Drawer Locks: ANSI/BHMA A156.11, E07041.

I. Door: ANSI/BHMA A156.16, L03011.

J. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with ANSI/BHMA A156.18 for ANSI/BHMA finish number indicated.
   1. Aluminum, finish: Matt black, RAL 9017

K. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in ANSI/BHMA A156.9.

2.4 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.

B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

2.5 FABRICATION

A. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

B. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Before installation, condition cabinets to humidity conditions in installation areas for not less than 72 hours.

B. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with wafer-head cabinet installation screws.

C. Install cabinets level, plumb, and true in line to a tolerance of 1/8 inch in 96 inches using concealed shims.

1. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
2. Install cabinets without distortion so doors and drawers fit openings and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
3. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches o.c. with No. 10 wafer-head screws sized for not less than 1-1/2-inch penetration into wood blocking, No. 10 wafer-head sheet metal screws through metal framing behind wall finish

END OF SECTION 06 41 16

SECTION 07 92 00 – JOINT SEALANTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Joint backings and accessories.

1.2 REFERENCE STANDARDS

A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2015.

B. ASTM C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants; 2015a.

C. ASTM C834 - Standard Specification for Latex Sealants; 2017.

D. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2012 (Reapproved 2017).

E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

F. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2016.

G. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.

H. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2008 (Reapproved 2012).

I. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2002 (Reapproved 2013).

J. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints; 2013.

K. SWRI (VAL) - SWR Institute Validated Products Directory; Current Listings at www.swrionline.org.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct a preinstallation meeting at least one week prior to the start of the work of this section.
   1. Ensure required submittals have been provided with sufficient time for review prior to scheduling the Preinstallation Meeting.
   2. Review the detailed requirements for the work of this section and to review the drawings and specifications for this work.
   3. Require attendance by all affected installers including but not limited to
      a. Contractor's Superintendent
      b. Installer

c. Manufacturer/Fabricator Representative
d. Other affected Subcontractors
e. Architect/Engineer of Record
f. Board's Representative

4. Record minutes and distribute copies within 5 days after meeting to participants as well as Architect/Engineer of Record, Board and those affected by decisions made.

1.4 SUBMITTALS

A. See Section 01 33 23 – Shop Drawings, Product Data & Samples, for submittal procedures.

B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
2. List of backing materials approved for use with the specific product.
3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
4. Substrates the product should not be used on.
5. Substrates for which use of primer is required.
6. Sample product warranty.
7. Certification by manufacturer indicating that product complies with specification requirements.
8. SWRI Validation for Exterior Sealants: Provide currently available sealant product validations as listed by SWRI (VAL) for specified sealants.

C. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards consisting of strips of cured sealants showing the full range of colors available for selection.

D. Field Quality Control Plan: Submit at least two weeks prior to start of installation.

E. Field Quality Control Log: Submit filled out log for each length or instance of sealant installed, within 10 days after completion of inspections/tests; include bagged test samples and photographic records, if any.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

B. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

C. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
1. Adhesion Testing: In accordance with ASTM C794.
2. Compatibility Testing: In accordance with ASTM C1087.
3. Allow sufficient time for testing to avoid delaying the work.
4. Deliver to manufacturer sufficient samples for testing.
5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.
6. Testing is not required if sealant manufacturer provides data showing previous testing, not older than 24 months, that shows satisfactory adhesion, lack of staining, and compatibility.

D. Field Adhesion Test Procedures:
   1. Allow sealants to fully cure as recommended by manufacturer before testing.
   2. Have a copy of the test method document available during tests.
   3. Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.
   4. When performing destructive tests, also inspect the opened joint for proper installation characteristics recommended by manufacturer and report any deficiencies.
   5. Deliver the samples removed during destructive tests in separate sealed plastic bags, identified with project, location, test date, and test results, to Board.
   6. If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Architect/Engineer of Record.

E. Destructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Destructive Fail Procedure.
   1. Sample: At least 18 inch long.
   2. Minimum Elongation Without Adhesive Failure: Consider the tail at rest, not under any elongation stress; multiply the stated movement capability of the sealant in percent by two; then multiply 1 inch by that percentage; if adhesion failure occurs before the "1 inch mark" is that distance from the substrate, the test has failed.
   3. If either adhesive or cohesive failure occurs prior to minimum elongation, take necessary measures to correct conditions and re-test; record each modification to products or installation procedures.

F. Field Adhesion Tests of Joints: Test for adhesion using most appropriate method in accordance with ASTM C1521, or other applicable method as recommended by manufacturer.

1.6 WARRANTY

A. See Section 01 78 36 – Warranties & Bonds, for additional warranty requirements.

B. Correct defective work within a five-year period after date of Preliminary Acceptance.

C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 - PRODUCTS

2.1 JOINT SEALANT APPLICATIONS

A. Scope:
   1. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
      a. Joints between door, window, and other frames and adjacent construction.
      b. In sound-rated wall and ceiling assemblies, gaps at electrical outlets, wiring devices, piping, and other openings; between wall/ceiling and other construction; and other flanking sound paths.
         1) Exception: Such gaps and openings in gypsum board and plaster finished stud walls and suspended ceilings.
         2) Exception: Through-penetrations in sound-rated assemblies that are also fire-rated assemblies.
      c. Other joints indicated.
   2. Do not seal the following types of joints.

a. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
b. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
c. Joints where installation of sealant is specified in another section.
d. Joints between suspended panel ceilings/grid and walls.

B. Interior Joints: Use non-staining silicone or polyurethane sealant, unless otherwise indicated. Coordinate sealant selection with manufacturer's recommendations for use at adjacent materials.
1. Non-Moving Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
2. Moving joints in vertical surfaces and horizontal non-traffic surfaces: Non-staining silicone sealant or Polyurethane sealant.
3. Floor Joints (horizontal traffic): Polyurethane "traffic-grade" sealant.
4. Wet Areas (Locker Rooms, Toilet Rooms, Shower Areas): Mildew-resistant silicone sealant; white.
5. Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; white.
6. Sound-Rated Assemblies: Acrylic emulsion latex sealant.

C. Interior Wet Areas: Locker rooms, toilet rooms, and shower areas; fixtures in wet areas include plumbing fixtures, countertops, cabinets, and other similar items.

2.2 JOINT SEALANTS - GENERAL

A. Colors: As indicated on the drawings, or if not indicated as directed by Architect/Engineer of Record.

2.3 NONSAG JOINT SEALANTS

A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
1. Movement Capability: Plus and minus 50 percent, minimum.
2. Non-Staining To Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
4. Color: To be selected by Architect/Engineer of Record from manufacturer's full range.
5. Cure Type: Single-component, neutral moisture curing.
6. Products:
a. Dow Chemical Company; 790 Silicone Building Sealant: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
b. GE Silicones: Silpruf.
c. Tremco Commercial Sealants & Waterproofing; Spectrem 1: www.tremcosealants.com/#sle.

B. Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
1. Color: White.
2. Products:
a. Dow Chemical Company; Dowsil: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
b. GE Silicones: SCS 1700
c. Pecora Corporation; 898NST: www.pecora.com/#sle.
d. Tremco, Inc.: Tremsil 200.

C. Polyurethane Sealant: ASTM C920, Grade NS, Uses NT, M and A; single or multi-component; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 25 percent, minimum.
   2. Color: To be selected by Architect/Engineer of Record from manufacturer's full range.
   3. Products:
      a. BASF: MasterSeal NP2.
      b. Pecora Corporation; Dynatrol II: www.pecora.com/#sle.
      c. Tremco Commercial Sealants & Waterproofing; Vulkem 227: www.tremcosealants.com/#sle.
      d. Tremco Commercial Sealants & Waterproofing; Dymeric 240 FC: www.tremcosealants.com/#sle.
      e. W. R. Meadows, Inc; POURTHANE NS: www.wrmeadows.com/#sle.

D. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.
   1. Color: To be selected by Architect/Engineer of Record from manufacturer's full range.
   2. Products:
      a. BASF Corporation: Masterseal NP 520.
      b. Pecora Corporation; AC-20: www.pecora.com/#sle.
      c. Tremco Commercial Sealants & Waterproofing; Tremflex 834: www.tremcosealants.com/#sle.

2.4 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
   1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type O - Open Cell Polyurethane.
   2. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
   3. Open Cell: 40 to 50 percent larger in diameter than joint width.
   4. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.

E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

D. Preinstallation Adhesion Testing: Install a sample for each test location indicated in the test plan.
1. Test each sample as specified in under QUALITY ASSURANCE article.
2. Notify Architect/Engineer of Record of date and time that tests will be performed, at least 7 days in advance.
3. Record each test on Preinstallation Adhesion Test Log as indicated.
4. If any sample fails, review products and installation procedures, consult manufacturer, or take whatever other measures are necessary to ensure adhesion; re-test in a different location; if unable to obtain satisfactory adhesion, report to Architect/Engineer of Record.
5. After completion of tests, remove remaining sample material and prepare joint for new sealant installation.

3.2 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.3 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Perform acoustical sealant application work in accordance with ASTM C919.

D. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

E. Install bond breaker backing tape where backer rod cannot be used.

F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

H. Nonsag Sealants: Tool surface concave per Figure 5A in ASTM C1193, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.4 FIELD QUALITY CONTROL

A. Perform field quality control inspection/testing as specified in QUALITY ASSURANCE article.

B. Destructive Adhesion Testing: If there are any failures in first 1000 linear feet, notify Architect/Engineer of Record immediately.

C. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

D. Repair destructive test location damage immediately after evaluation and recording of results.

3.5 POST-OCCUPANCY

A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width, i.e., at low temperature in thermal cycle. Report failures immediately and repair.

END OF SECTION 07 92 00

SECTION 08 14 16 - FLUSH WOOD DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Five-ply flush wood veneer-faced doors for transparent finish.
2. Fire-rated wood door frames.

1.2 ACTION SUBMITTALS

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

1. Door core materials and construction.
2. Door edge construction
3. Door face type and characteristics.
4. Door frame construction.
5. Factory-finishing specifications.

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

1. Door schedule indicating door and frame location, type, size, fire protection rating, and swing.
2. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
3. Details of frame for each frame type, including dimensions and profile.
4. Requirements for veneer matching.
5. Apply AWI Quality Certification. Program label to Shop Drawings.

C. Samples: For factory-finished doors and factory-finished door frames.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For door inspector.

1. Fire-Rated Door Inspector: Submit documentation of compliance with NFPA 80, Section 5.2.3.1.

B. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

A. Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

B. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.5 QUALITY ASSURANCE

A. Manufacturer's Certification: Licensed participant in AWI's Quality Certification Program.

B. Fire-Rated Door Inspector Qualifications: Inspector for field quality-control inspections of fire-rated door assemblies complies with qualifications set forth in NFPA 80, Section 5.2.3.1 and the following:

1. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Rated Wood Door and Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings and temperature-rise limits indicated on Drawings, based on testing at positive pressure in accordance with NFPA 252.

1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
2. Temperature-Rise Limit: Where indicated on Drawings, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F above ambient after 30 minutes of standard fire-test exposure.

B. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing in accordance with UL 1784 and installed in compliance with NFPA 105.

2.2 FLUSH WOOD DOORS AND FRAMES, GENERAL

A. Quality Standard: In addition to requirements specified, comply with "Architectural Woodwork Standards."

1. Provide labels from AWI certification program indicating that doors comply with requirements of grades specified.
   a. Contractor registers the Work under this Section with the AWI Quality Certification Program at www.awiqcp.org or by calling 855-345-0991.

2.3 SOLID-CORE, FIVE-PLY FLUSH WOOD VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. Interior Solid-Core Doors.

1. Manufacturer to match existing door manufacturer which may include but is not limited to:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1) Lambton Doors.
   2) Masonite Architectural.
   3) Oshkosh Door Company.
   4) VT Industries, Inc.

2. Performance Grade: ANSI/WDMA I.S. 1A Extra Heavy Duty.
3. Architectural Woodwork Standards Grade: Custom.
4. Faces: Single-plywood veneer not less than 1/50 inch (0.508 mm) thick.

   a. Species: Cherry, to match existing.
   b. Cut: Plain sliced (flat sliced) Quarter sliced Rift cut.
   c. Match between Veneer Leaves: Book Slip Random match.
   d. Assembly of Veneer Leaves on Door Faces: Running match.
   e. Pair and Set Match: Provide for doors hung in same opening.
   f. Room Match: Provide door faces of compatible color and grain within each separate room or area of building.

5. Exposed Vertical and Top Edges: Same species as faces - Architectural Woodwork Standards edge Type A.

   a. Fire-Rated Single Doors: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed vertical edges.
   b. Fire-Rated Pairs of Doors: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals. Provide stiles with concealed intumescent seals. Comply with specified requirements for exposed edges.
   c. Fire-Rated Pairs of Doors: Provide formed-steel edges and astragals with intumescent seals.

      1) Finish steel edges and astragals to match door hardware (locksets or exit devices).

   d. Mineral-Core fire rated doors shall not be used, unless as follows:

      1) Door(s) is on a magnetic hold open to close the door, or
      2) Door is to a mechanical or electrical room.
      3) At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.
         a) Screw-Holding Capability: 550 lbf (2440 N) in accordance with WDMA T.M. 10.

6. Core for Non-Fire-Rated Doors:

   a. ANSI A208.1, particleboard.

      1) Blocking: Provide wood blocking in particleboard-core doors as follows:

         a) 5-inch (125-mm) top-rail blocking, in doors indicated to have closers.
         b) 5-inch (125-mm) bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.

c) 5-inch (125-mm) midrail blocking, in doors indicated to have exit devices.

2) Provide doors with glued-wood-stave or WDMA I.S. 10 structural-composite-lumber cores instead of particleboard cores for doors.

b. Glued wood stave.
c. WDMA I.S. 10 structural composite lumber.

1) Screw Withdrawal, Face: 550 lbf (2440 N)
2) Screw Withdrawal, Edge: 550 lbf (2440 N)

d. Either glued wood stave or WDMA I.S. 10 structural composite lumber.

7. Core for Fire-Rated Doors: As required to achieve fire-protection rating indicated on Drawings.

a. Blocking for Mineral-Core Doors: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated on Drawings as follows:

1) 5-inch (125-mm) top-rail blocking.
2) 5-inch (125-mm) bottom-rail blocking, in doors indicated to have protection plates.
3) 5-inch (125-mm) midrail blocking, in doors indicated to have armor plates.
4) 5-inch (125-mm) midrail blocking, in doors indicated to have exit devices.

8. Construction: Five plies, hot-pressed bonded (vertical and horizontal edging is bonded to core), with entire unit abrasive planed before veneering.

2.4 INTERIOR DOOR FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

B. Knock-down frames are not acceptable.

C. Frame Finish: Match existing.

D. Interior Door Frames, Non-Fire Rated, Typical: Full profile/continuously welded type.
1. Frame Metal Thickness: 16 gage, 0.053 inch, minimum.

E. Door Frames, Fire-Rated: Full profile/continuously welded type, if permitted by fire-ratings indicated. If not permitted, as required by indicated fire-rating.
1. Fire Rating: Same as door, labeled.
2. Frame Metal Thickness: 16 gage, 0.053 inch, minimum.

2.5 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, as specified in Section 09 91 13 - Exterior Painting and Section 09 91 23 - Interior Painting.

2.6 FACTORY FINISHING

A. Comply with referenced quality standard for factory finishing.

1. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
2. Finish faces, all four edges, edges of cutouts, and mortises.
3. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.

B. Factory finish doors.

C. Transparent Finish:

1. Architectural Woodwork Standards Grade: Custom.
2. Finish: ANSI/WDMA I.S. 1A TR-4 Conversion Varnish.
3. Finish: ANSI/WDMA I.S. 1A TR-6 Catalyzed Polyurethane.
4. Finish: ANSI/WDMA I.S. 1A TR-8 UV Cured Acrylated Polyester/Urethane
5. Staining: Match Architect's sample to match existing
6. Sheen: Match Existing

PART 3 - EXECUTION

3.1 INSTALLATION

A. Hardware: For installation, see Section 08 71 00 Door Hardware.

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

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

1. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches (3.2 mm in 2400 mm).
2. Anchor frames to anchors or blocking built in or directly attached to substrates.

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

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

3. Install fire-rated doors and frames in accordance with NFPA 80.
4. Install smoke- and draft-control doors in accordance with NFPA 105.

D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.2 FIELD QUALITY CONTROL

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

B. Inspections:

1. Provide inspection of installed Work through AWI's Quality Certification Program, certifying that wood doors and frames, including installation, comply with requirements of AWI/AWMCA/WI's "Architectural Woodwork Standards" for the specified grade.
2. Fire-Rated Door Inspections: Inspect each fire-rated door in accordance with NFPA 80, Section 5.2.
3. Egress Door Inspections: Inspect each door equipped with panic hardware, each door equipped with fire exit hardware, each door located in an exit enclosure, each electrically controlled egress door, and each door equipped with special locking arrangements in accordance with NFPA 101, Section 7.2.1.15.

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

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

E. Prepare and submit separate inspection report for each fire-rated door assembly indicating compliance with each item listed in NFPA 80 and NFPA 101.

3.3 ADJUSTING

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

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

END OF SECTION 08 14 16

SECTION 08 31 13 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Wall and ceiling access door and frame units.

1.2 REFERENCE STANDARDS

A. UL (FRD) - Fire Resistance Directory; current edition.

1.3 SUBMITTALS

A. See Section 01 33 23 – Shop Drawings, Product Data & Samples, for submittal procedures.

B. Product Data: Provide sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.

C. Shop Drawings: Indicate exact position of each access door and/or panel unit.

D. Schedule: Provide complete door and frame schedule, including types, general locations, sizes, construction details, latching or locking provisions, and other data pertinent to installation.

E. Coordination Drawings: Reflected ceilings plans drawn to scale and coordinating penetrations and ceiling-mounted items with concealed framing, suspension systems, piping, ductwork, and other construction. Show the following:
   1. Method of attaching door frames to surrounding construction.
   2. Ceiling-mounted items including access doors and frames, lighting fixtures, diffusers, grilles, speakers, sprinklers, and special trim.

1.4 COORDINATION

A. Verification: Determine specific locations and sizes for access doors needed to gain access to concealed equipment, and indicate on schedule specified in “Submittals” Article.

PART 2 - PRODUCTS

2.1 ACCESS DOORS AND PANELS ASSEMBLIES

A. Flush, Non-Fire-Rated, Wall-and Ceiling-Mounted Units with Trimless Frames:
   1. Location: Gypsum board.
   2. Material: Steel.
   3. Size: As indicated, unless otherwise required for application indicated.
   4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle, concealed pin type or continuous piano hinge.
   5. Lock: Key-operated cylinder lock.

B. Flush, Non-Fire-Rated, Wall-Mounted Units with Exposed Frames:
   1. Location: Masonry.

2. Material:
   a. Typical Locations: Steel, hot-dipped zinc, or zinc-aluminum-alloy coated.
   b. Boys' and Girls' Toilet Rooms: Stainless steel, Type 304.
3. Size: As indicated, unless otherwise required for application indicated, 12 inch by 12 inch, minimum.
4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle, concealed pin type or continuous piano hinge.
5. Lock: Key-operated cylinder lock.

C. Fire-Rated Wall-Mounted Units with Trimless Frames:
1. Location: Fire-rated gypsum board.
2. Wall Fire-Rating: Match rating of separation in which located.
3. Temperature Rise Rating: 250 deg F (139 deg C) at the end of 30 minutes.
4. Material: Steel.
5. Size: As indicated, unless otherwise required for application indicated, 12 inch by 12 inch, minimum.
6. Door/Panel: Insulated double-surface panel, with tool-operated spring or cam lock and no handle, concealed pin type or continuous piano hinge.
7. Automatic Closer: Spring type.
8. Latch: Self-latching bolt operated by key with interior release.

D. Fire-Rated Wall-Mounted Units with Exposed Frames:
1. Location: Fire-resistive masonry.
2. Wall Fire-Rating: Match rating of separation in which located.
3. Temperature Rise Rating: 250 deg F (139 deg C) at the end of 30 minutes.
4. Material: Steel.
5. Size: As indicated, unless otherwise required for application indicated, 12 inch by 12 inch, minimum.
6. Door/Panel: Insulated double-surface panel, with tool-operated spring or cam lock and no handle, concealed pin type or continuous piano hinge.
7. Automatic Closer: Spring type hinge.
8. Latch: Self-latching bolt operated by key with interior release.

E. Recessed, Non-Fire-Rated, Wall-and Ceiling-Mounted Units with Trimless Frames:
1. Location: Gypsum board and acoustical panel ceilings.
2. Material: Steel.
3. Size: As indicated, unless otherwise required for application indicated, 12 inch by 12 inch, minimum.
4. Door/Panel: Insulated double-surface panel, with tool-operated spring or cam lock and no handle, concealed pin type or continuous piano hinge.
5. Latch: Screwdriver-operated cam latch with plastic grommet.
6. Lock: Key-operated cylinder lock.

2.2 WALL AND CEILING MOUNTED UNITS

A. Manufacturers:
1. J.L. Industries.
2. Karp.
3. Larsen’s.
4. Milcor, Inc: www.milcorinc.com/#sle.
5. Nystrom, Inc: www.nystrom.com/#sle.

B. Wall and Ceiling Mounted Units: Factory fabricated door and frame, fully assembled units with corner joints welded, filled and ground flush; square and without rack or warp; coordinate requirements with type of installation assembly being used for each unit.
   1. Door Style: Single thickness with rolled or turned in edges.
   2. Frames: 16 gage, 0.0598 inch, minimum thickness.
   3. Single Steel Sheet Door Panels: 1/16 inch, minimum thickness.
   4. Units in Fire-Rated Assemblies: Fire rating as required by applicable code for fire-rated assembly that access doors are being installed.
      a. Provide products listed by UL (FRD) as suitable for purpose indicated.
      b. Provide certificate of compliance from authorities having jurisdiction indicating approval of fire rated doors.
   5. Steel Finish: Factory Primed; Field Painted to match ceiling/wall finish.
   6. Stainless Steel Finish (at wet locations): No. 4 brushed finish.
   7. Hardware:
      a. Hardware for Fire-Rated Units: As required for fire-rated listing indicated.
      b. Hinges for Non-Fire-Rated Units: Concealed, constant force closure spring type.
      c. Handle: No handle.

C. Units in Fire-Rated Assemblies, General: Fire rating as required by applicable code for fire-rated assembly that access doors are being installed.
   1. Provide products listed by UL (FRD) as suitable for purpose indicated.
   2. Provide certificate of compliance from authorities having jurisdiction indicating approval of fire rated doors.

D. Mounting Criteria:
   1. Wall: Provide the following types with locations as indicated on Drawings.
      a. Recessed "trimless" frame and door surface flush with wall surface.
      b. Surface-mounted face frame and door surface flush with frame surface.
   2. Gypsum Board:
      a. Recessed drywall bead frame with door surface flush with wall surface.
      b. Drywall bead frame with door surface flush with wall surface.
      c. Drywall bead frame with door surface recessed for infill for wall or ceiling finish
   3. Plaster:
      a. Drywall bead frame with door surface flush with wall surface.
   4. Masonry:
      a. Surface-mounted frame with door surface flush with frame surface.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that rough openings are correctly sized and located.

B. Begin installation only after substrates have been properly prepared, and if the responsibility of another installer, notify Architect/Engineer of Record of unsatisfactory preparation before proceeding.

C. Proceed only after unsatisfactory conditions have been corrected. Commencement of work in this section will be an indication of the acceptance of substrate conditions and the Contractor will be held responsible for the satisfactory execution and results of the finished work

3.2 PREPARATION

A. Clean surfaces thoroughly prior to proceeding with this work.

B. Prepare surfaces using methods recommended by manufacturer for applicable substrates in accordance with project conditions.

3.3 INSTALLATION

A. Install units in accordance with manufacturer's instructions.

B. Install frames plumb and level in openings, and secure units rigidly in place.

C. Position units to provide convenient access to concealed equipment when necessary.

D. Adjust doors and hardware after installation for proper operation.

END OF SECTION 08 31 13

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware for:

   a. Swinging doors.
   b. Sliding doors.

2. Electronic access control system components
3. Field verification, preparation and modification of existing doors and frames to receive new door hardware.

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets.
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 06 Section “Rough Carpentry”
2. Division 07 Section “Joint Sealants” for sealant requirements applicable to threshold installation specified in this section.
3. Division 08 Sections:

   1. “Metal Doors and Frames”
   2. “Flush Wood Doors”

4. Division 09 sections for touchup, finishing or refinishing of existing openings modified by this section.

1.2 REFERENCES

A. UL - Underwriters Laboratories

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.3 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:

    1. Comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, “EXAMINATION” article, herein.
    2. Review drawings and Sections from related trades to verify compatibility with specified hardware.
    3. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:

    1. Wiring Diagrams: For power, signal, and control wiring and including:
        1) Details of interface of electrified door hardware and building safety and security systems.
        2) Schematic diagram of systems that interface with electrified door hardware.
        3) Point-to-point wiring.
        4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.

    1. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:

    1. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
    2. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
    3. Indicate complete designations of each item required for each opening, include:
        1) Door Index: door number, heading number, and Architect's hardware set number.
        2) Quantity, type, style, function, size, and finish of each hardware item.
        3) Name and manufacturer of each item.
        4) Fastenings and other pertinent information.
        5) Location of each hardware set cross-referenced to indications on Drawings.
        6) Explanation of all abbreviations, symbols, and codes contained in schedule.
        7) Mounting locations for hardware.
        8) Door and frame sizes and materials.
        9) Degree of door swing and handing.
        10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

5. Key Schedule:

    1. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
    2. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
    3. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
    4. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
    5. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
    6. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

6. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory or shop prepared for door hardware installation.

C. Informational Submittals:

    1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.

2. Provide Product Data:

    1. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
    2. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:

    1. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
    2. Catalog pages for each product.
    3. Factory order acknowledgement numbers (for warranty and service)
    4. Name, address, and phone number of local representative for each manufacturer.
    5. Parts list for each product.
    6. Final approved hardware schedule edited to reflect conditions as installed.
    7. Final keying schedule
    8. Copies of floor plans with keying nomenclature
    9. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
    10. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit a written report of the results of functional testing and inspection for fire door assemblies, in compliance with NFPA 80.

    1. Written report to be provided to the Owner and be made available to the Authority Having Jurisdiction (AHJ).
    2. Report to include the door number for each fire door assembly, door location, door and frame material, fire rating, and summary of deficiencies.

2. Submit a written report of the results of functional testing and inspection for required egress door assemblies, in compliance with NFPA 101.

    1. Written report to be provided to the Owner and be made available to the Authority Having Jurisdiction (AHJ).
    2. Report to include the door number for each required egress door assembly, door location, door and frame material, fire rating, and summary of deficiencies.

1.4 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.

1. Warehousing Facilities: In Project's vicinity.
2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies like those indicated for this Project.
4. Coordination Responsibility: Assist in coordinating installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.
    1) Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.

2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:

    1. For door hardware: DHI certified AHC or DHC.
    2. Can provide installation and technical data to Architect and other related subcontractors.
    3. Can inspect and verify components are in working order upon completion of installation.
    4. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:

    1. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
    2. Provide only items of door hardware that are listed products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:

    1. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
    2. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware

    1. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:

1. Comply with governing accessibility regulations cited in “REFERENCES” article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference

1. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
   1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
   2) Preliminary key system schematic diagram.
   3) Requirements for key control system.
   4) Requirements for access control.
   5) Address for delivery of keys.

2. Pre-installation Conference

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Inspect and discuss preparatory work performed by other trades.
3. Inspect and discuss electrical roughing-in for electrified door hardware.
4. Review sequence of operation for each type of electrified door hardware.
5. Review required testing, inspecting, and certifying procedures.
6. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:

1. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer’s original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.6 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

E. Existing Openings: Where existing doors, frames and/or hardware are to remain, field verify existing functions, conditions and preparations and coordinate to suit opening conditions and to provide proper door operation.

1.7 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer’s published listings.

1. Mechanical Warranty
   1) Locks- 10 year
   2) Exit Device- 10 year
   3) Closers-10 year

1.8 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. NO SUB: The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: “No Substitute.”

1. Where “No Substitute” is noted, submittals and substitution requests for other products will not be considered.

B. Approval of manufacturers and/or products other than those listed as “Scheduled Manufacturer” or “Acceptable Manufacturers” in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.

C. Approval of products from manufacturers indicated in “Acceptable Manufacturers” is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer’s product.

D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.2 MATERIALS

A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru bolts are required.
4. Install hardware with fasteners provided by hardware manufacturer.

2.3 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:

    1. Ives 5BB series

2. Acceptable Manufacturers and Products:

1. McKinney TA/T4A series
2. Stanley FBB series
3. Bommer BB5000 series

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:

    1. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
    2. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:

    1. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
    2. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. 2 inches or thicker doors:

    1. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
    2. Interior: Heavy weight, steel, 5 inches (127 mm) high

6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
8. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
9. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:

    1. Steel Hinges: Steel pins
    2. Non-Ferrous Hinges: Stainless steel pins
    3. Out-Swinging Exterior Doors: Non-removable pins
    4. Out-Swinging Interior Lockable Doors: Non-removable pins
    5. Interior Non-lockable Doors: Non-rising pins

10. Provide hinges with electrified options as scheduled in the hardware sets. Provide with enough and wire gage to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.4 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:

    1. Ives

2. Acceptable Manufacturers:

    1. Select

2. Stanley
3. Roton

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with enough and wire gage to accommodate electric function of specified hardware.
7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.5 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer:

1. Ives

2. Acceptable Manufacturers:

1. Burns
2. Rockwood
3. Trimco

B. Requirements:

1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.6 CYLINDRICAL LOCKS – GRADE 1

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:

1. Corbin- Russwin CL3300 series

2. Acceptable Manufacturers and Products:

1. Falcon T series

2. Best 9K series

B. Requirements:

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3-hour fire doors.
2. Cylinders: Refer to “KEYING” article, herein.
3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2-inch latch throw. Provide proper latch throw for UL listing at pairs.
4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
7. Provide electrified options as scheduled in the hardware sets.
8. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.

2.7 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:

1. LCN 4040XP series

2. Acceptable Manufacturers and Products:

1. Norton 9500series
2. Sargent 281 series

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Closer Body: 1-1/2-inch (38 mm) diameter with 5/8-inch (16 mm) diameter heat-treated pinion journal.
3. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
4. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
5. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
6. Pressure Relief Valve (PRV) Technology: Not permitted.
7. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.8 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:

1. Ives.

2. Acceptable Manufacturers:

1. Trimco
2. Burns
3. Rockwood

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.9 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:

1. Ives

2. Acceptable Manufacturers:

1. Burns
2. Trimco
3. Rockwood

B. Requirements:

1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.10 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:

1. Glynn-Johnson

2. Acceptable Manufacturers:

1. Rixson
2. Sargent
3. ABH

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.
2. Provide friction type at doors without closer and positive type at doors with closer.

2.11 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:

1. Ives

2. Acceptable Manufacturers:

1. Trimco
2. Burns
3. Rockwood

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.12 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer:

1. Zero International

2. Acceptable Manufacturers:

1. National Guard
2. Reese
3. Pemko

B. Requirements:

1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.13 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer:

1. Ives

2. Acceptable Manufacturers:

1. Burns
2. Rockwood
3. Trimco

B. Requirements:

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.

C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

D. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Where on-site modification of doors and frames is required:

1. Carefully remove existing door hardware and components being reused. Clean, protect, tag, and store in accordance with storage and handling requirements specified herein.
2. Field modify and prepare existing doors and frames for new hardware being installed.
3. When modifications are exposed to view, use concealed fasteners, when possible.
4. Prepare hardware locations and reinstall in accordance with installation requirements for new door hardware and with:

1. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
2. Wood Doors: DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."
3. Doors in rated assemblies: NFPA 80 for restrictions on on-site door hardware preparation.

3.3 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

H. Lock Cylinders:

1. Coordinate keying cores with owner.

I. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

J. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

K. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

L. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

M. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

N. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

O. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 FIELD QUALITY CONTROL

A. Inspection and Testing:

1. Provide functional testing and inspection of fire door assemblies by a qualified person in accordance with NFPA 80.

    1. Schedule fire door assembly inspection within 90 days of Substantial Completion of the Project.
    2. Submit a signed, written final report as specified in Paragraph 1.03.E.1.
    3. Correct all deficiencies and schedule a reinspection of fire door assemblies noted as deficient on the inspection report.
    4. Inspector to reinspect fire door assemblies after repairs are made.

2. Provide inspection of required egress door assemblies by a qualified person in accordance with NFPA 101.

    1. Schedule egress door assembly inspection within 90 days of Substantial Completion of the Project for the required openings.
    2. Submit a signed, written final report as specified in Paragraph 1.03.E.2.
    3. Correct all deficiencies and schedule a reinspection of egress door assemblies noted as deficient on the inspection report.
    4. Inspector to reinspect required egress door assemblies after repairs are made.

3.5 ADJUSTING

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

1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.6 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer’s instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

Lake Land College
Woman's Locker Rooms

Hardware Group No. 01

For use on Door #(s):

104 105 110

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5		652	IVE
1	EA	ELECTRONIC LOCK	E5000	✓	626	KAB
1	EA	SURFACE CLOSER	4040XP RW/PA MC		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	WS406/407CCV		630	IVE
3	EA	SILENCER HM	SR64		GRY	IVE

Hardware Group No. 02

For use on Door #(s):

(104B1, 104B2) (104C1, 104C2) (105A1, 105A2) (105C1, 105C2) (110A1, 110A2) (110C1, 110C2) (110D1, 110D2) (110B1, 110B2)

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
4	EA	HINGE	7215INT	630	IVE
2	EA	MANUAL FLUSH BOLT HM	FB457	626	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCKSET	CL3357 NZD	626	C-R
2	EA	OH STOP & HOLDER	100H	630	GLY
2	EA	SILENCER HM	SR64	GRY	IVE

OPERATIONAL DESCRIPTION
ACTIVE LEAF
STOREROOM LOCK - OUTSIDE LEVER FIXED. ENTRANCE BY KEY ONLY. INSIDE LEVER ALWAYS UN-LOCKED. INSIDE LEVER IS ALWAYS FREE FOR IMMEDIATE EGRESS.
CONCEALED OVERHEAD STOP WITH HOLD OPEN

INACTIVE LEAF
MANUAL FLUSH BOLTS.
CONCEALED OVERHEAD STOP WITH HOLD OPEN

Hardware Group No. 03

For use on Door #(s):

104A 105B 105D

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCKSET	CL3357 NZD	626	C-R
1	EA	SURFACE CLOSER	4040XP SCUSH MC	689	LCN
3	EA	SILENCER HM	SR64	GRY	IVE

OPERATIONAL DESCRIPTION

STOREROOM LOCK - OUTSIDE LEVER FIXED. ENTRANCE BY KEY ONLY. INSIDE LEVER ALWAYS UN-LOCKED. INSIDE LEVER IS ALWAYS FREE FOR IMMEDIATE EGRESS.
SELF-CLOSING. SPRING LOADED STOP INCLUDED. PUSH SIDE MOUNTED.

Hardware Group No. 04

For use on Door #(s):

111

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY W/ OCC INDIC	CLX3300	626	C-R
1	EA	SURFACE CLOSER	4040XP SCUSH MC	689	LCN
3	EA	SILENCER HM	SR64	GRY	IVE

OPERATIONAL DESCRIPTION

CYLINDRICAL PRIVACY LOCK WITH OCCUPANCY INDICATOR - OUTSIDE LEVER FIXED. ENTRANCE BY KEY ONLY. INSIDE LEVER ALWAYS UNLOCKED. INSIDE LEVER IS ALWAYS FREE FOR IMMEDIATE EGRESS.
SELF-CLOSING. SPRING LOADED STOP INCLUDED. PUSH SIDE MOUNTED.

END OF SECTION 08 71 00

SECTION 09 22 16 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Metal partition, ceiling, and soffit framing.

B. Framing accessories.

1.2 REFERENCE STANDARDS

A. AISI S100-12 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2012.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2017.

C. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014, with Editorial Revision (2015).

D. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2017.

E. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2016.

F. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); 2002 (Ed. 2004).

1.3 SUBMITTALS

A. See Section 01 33 23 – Shop Drawings, Product Data & Samples for submittal procedures.

B. Product Data: Provide data describing framing member materials and finish, product criteria, load charts, limitations, and deflection criteria.

C. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

1.4 MOCK-UP

A. Provide mock-up of stud wall, ceiling, and soffit framing as part of plastering section mockups and finish specified in other sections. Coordinate with installation of associated work specified in other sections.

PART 2 - PRODUCTS

2.1 FRAMING MATERIALS

A. Non-Loadbearing Framing System Components: ASTM C645 and as follows: .
   1. Studs: "C" shaped with flat or formed webs with knurled face, with flange edges of studs bent back 90 degrees and doubled over to form 3/16-inch- (5-mm-) wide minimum lip (return); galvanized sheet steel, of size and properties necessary to comply with ASTM C754 and the following for minimum thickness of base (uncoated) metal, with width and limiting heights. Limiting heights are based on using 16" o.c. stud spacing with 1/2" thick Gypsum board panels and 5 psf load perpendicular to partition or furring with an allowable detection of L/360.
      a. Minimum thickness of base metal: (0.0179") 25 gauge.
      b. Stud Width: 2 1/2" = Limiting Height: 9'-10"
      c. Stud Width: 3 5/8" = Limiting Height: 12'-4"
      d. Stud Width: 4" = Limiting Height: 13'-4"
      e. Stud Width: 6" = Limiting Height: 17'-11"
      f. Provide 20-gauge studs unless otherwise noted. Limiting heights per ASTM C754.
      g. Provide bridging per manufacturer's published bridging tables.
   2. Runners: U shaped, sized to match studs.
   3. Channels: Cold-rolled steel, 0.0598-inch minimum thickness of base (uncoated) metal and 7/16-inch-wide flanges, and as follows:
      a. Carrying Channels: 1-1/2-inches deep, 475 lb./1000 feet, unless otherwise indicated.
      b. Furring: Hat-shaped sections, minimum depth of 3/4-inch, 300 lb./1000 feet.
   4. Stiffeners: 3/4" cold-rolled steel channels at 0.3 lb. Per ft., rust-inhibitive paint finish
   5. Furring:
      a. Hat-shaped sections, minimum depth of 3/4 inch, 300 lb./1000 feet.
      b. Rolled Steel Channels: Hot or cold rolled type with a minimum weight per thousand lin. ft. of not less than the following: 300 lbs. for 3/4" size; 410 lbs. for 1" hot rolled; 475 lbs. for 1-1/2" cold rolled; 1120 lbs. for 1-1/2" hot rolled; 590 lbs. for 2" cold rolled and 1260 lbs. for 2" hot rolled size.
      c. Pencil Rods: Hot rolled steel of circular cross section, not less than 3/8" diameter when used for support of lath, not less than 3/16" diameter when used as hangers.

B. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

C. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws, and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
   1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100-12.
   2. Material: ASTM A653/A653M steel sheet, SS Grade 50, with G60/Z180 hot dipped galvanized coating.
   3. Provide components UL-listed for use in UL-listed fire-rated head of partition joint systems indicated on drawings.
   4. Deflection and Firestop Track:
      a. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-rating of the wall assembly.
      b. Products:
         1) FireTrak Corporation; Posi Klip.
         2) Metal-Lite, Inc; The System.

5. Provide top track preassembled with connection devices spaced to fit stud spacing at 16” OC or as indicated on drawings; minimum track length of 12 feet.

D. Fasteners: ASTM C1002 self-piercing tapping screws.

E. Sheet Metal Backing:
1. For items up to 5 lbs (2.3 kg):
   a. Backing plates: 22-gauge steel, 2" x 2"
   b. Metal blocking: Not necessary
2. For items between 5-15 lbs (2.3-6.8 kg):
   a. Backing plates: 22-gauge steel, 2" x 2"
   b. Metal blocking: 25-gauge steel, 1 5/8" x 3 5/8"
3. For items between 15-30 lbs (6.8-13.6 kg):
   a. Backing plates: 16-gauge steel, 2" x 2"
   b. Metal blocking: 25-gauge steel, 1 5/8" x 3 5/8"
4. For items between 30-50 lbs (13.6-22.7 kg):
   a. Backing plates: 16-gauge steel, 3" x 3"
   b. Metal blocking: 16-gauge steel, 3 5/8" x 1 5/8"
5. For items between 50-100 lbs (22.7-45.4 kg):
   a. Backing plates: 16-gauge steel, 4" x 4"
   b. Metal blocking: 14-gauge steel, 3 5/8" x 1 5/8"
6. For items over 100 lbs (45.4 kg):
   a. Consult manufacturer’s loading tables for steel backing.

F. Anchorage Devices: Powder actuated.

G. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic.

2.2 FABRICATION

A. Fabricate assemblies of framed sections to sizes and profiles required.

B. Fit, reinforce, and brace framing members to suit design requirements.

C. Fit and assemble in largest practical sections for delivery to site, ready for installation.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that rough-in utilities are in proper location.

C. Proceed only after unsatisfactory conditions have been corrected. Commencement of work in this section will be an indication of the acceptance of substrate conditions and the Contractor will be held responsible for the satisfactory execution and results of the finished work.

3.2 INSTALLATION OF STUD FRAMING

A. Comply with requirements of ASTM C754.

B. Extend partition framing to structure where indicated and to ceiling in other locations.

C. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.

D. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.

E. Align and secure top and bottom runners at 24-inches on center.

F. Fit runners under and above openings; secure intermediate studs to same spacing as wall studs.

G. Install studs vertically at 16” OC except at jamb and corner conditions where double or triple studs are provided and where an additional stud should be provided within 6”.

H. Align stud web openings horizontally.

I. Secure studs to tracks using crimping method. Do not weld.

J. Stud splicing is not permissible.

K. Fabricate corners using a minimum of three studs.

L. Double stud at wall openings, door, and window jambs, not more than 2-inches from each side of openings.

M. Coordinate erection of studs with requirements of door frames; install supports and attachments.

N. Coordinate installation of bucks, anchors, and blocking with electrical, mechanical, and other work to be placed within or behind stud framing.

3.3 CEILING AND SOFFIT FRAMING

A. Comply with requirements of ASTM C754.

B. Install furring after work above ceiling or soffit is complete. Coordinate the location of hangers with other work.

C. Install furring independent of walls, columns, and above-ceiling work.

D. Securely anchor hangers to structural members or embed in structural slab. Space hangers as required to limit deflection to criteria indicated. Use rigid hangers at exterior soffits.

E. Space main carrying channels at maximum 72-inch on center, and not more than 6 inches from wall surfaces. Lap splice securely.

F. Securely fix carrying channels to hangers to prevent turning or twisting and to transmit full load to hangers.

G. Place furring channels perpendicular to carrying channels, not more than 2-inches from perimeter walls, and rigidly secure. Lap splices securely.

H. Reinforce openings in suspension system that interrupt main carrying channels or furring channels with lateral channel bracing. Extend bracing minimum 24-inches past each opening.

I. Laterally brace suspension system.

3.4 TOLERANCES

A. Maximum Variation From True Position: 1/8-inch in 10 feet.

END OF SECTION 09 22 16

SECTION 09 29 00 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

1.2 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Metal stud wall framing.

C. Metal channel ceiling framing.

D. Cementitious backing board.

E. Gypsum wallboard.
   1. Unless specifically designated otherwise the exposed face of all gypsum board walls shall be abuse-resistant type board to an elevation of 8'-0" above finished floor in all rooms on all floors except walls that occur directly behind built-in lockers.
   2. All un-rated gypsum board wall systems shall be fully sealed utilizing minimum one-hour fire-rated firestopping assemblies including, but not limited to; penetration firestopping, fire-resistive joint systems, top-of-wall firestopping, fire-rated putty behind electrical back- boxes and other firestopping methods and assemblies as required and specified.

F. Joint treatment and accessories.
   1. Outside-corners of interior partitions shall receive aluminum high-strength corners.

1.3 REFERENCE STANDARDS

A. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2010 (Reaffirmed 2016).

B. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.

C. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.

D. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2017.

E. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2017a.

F. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2015.

G. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2016.

H. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.

I. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2013.

J. ASTM C1278/C1278M - Standard Specification for Fiber-Reinforced Gypsum Panel; 2017.

K. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.

L. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels; 2015.

M. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels; 2013.

N. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2016.

O. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016).

P. ASTM E413 - Classification for Rating Sound Insulation; 2016.

Q. GA-216 - Application and Finishing of Gypsum Panel Products; 2016.

R. GA-600 - Fire Resistance Design Manual; 2015.

S. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.

T. UL (FRD) - Fire Resistance Directory; current edition.

1.4 SUBMITTALS

A. See Section 01 33 23 – Shop Drawings, Product Data & Samples for submittal procedures.

B. Shop Drawings: Indicate special details associated with fireproofing and acoustic seals. Illustrate each assembly based on ratings indicated and in compliance with authorities having jurisdiction.

C. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Transport, lift, and handle units with care, avoiding excessive stress and preventing damage; use appropriate equipment.

B. Store products in a clean dry area protected from weather, moisture, and damage.

1.6 PROJECT CONDITIONS

A. Maintain interior ambient temperatures at not less than 55 degrees F. for a period of at least 48 hours prior to application of gypsum board and joint treatment application, during application, and subsequently until joint treatment materials are dry.

PART 2 - PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:

C. Fire Rated Assemblies: Provide completed assemblies with the following characteristics:
1. Gypsum Association File Numbers: Comply with requirements of GA-600 for the particular assembly.
2. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.2 METAL FRAMING MATERIALS

A. As indicated in drawings and specified in 09 22 16 - Non-Structural Metal Framing.

2.3 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
1. Continental Building Products; ____: www.continental-bp.com/#sle.
2. Georgia-Pacific Gypsum; ____: www.gpgypsum.com/#sle.
3. National Gypsum Company; ____: www.nationalgypsum.com/#sle.
4. USG Corporation; ____: www.usg.com/#sle.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
2. Glass mat faced gypsum panels as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
3. Unfaced fiber-reinforced gypsum panels as defined in ASTM C1278/C1278M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
4. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   a. Mold-resistant board is required whenever board is being installed before the building is enclosed and conditioned.
5. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
6. Thickness:
   a. Vertical Surfaces: 5/8 inch.
   b. Ceilings: 1/2 inch.
   c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.

C. Impact Resistant Wallboard:
   1. Application: High-traffic areas indicated.
   2. Surface Abrasion: Level 2, minimum, when tested in accordance with ASTM C1629/C1629M.
   3. Indentation: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
   4. Soft Body Impact: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.
   5. Hard Body Impact: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.
   6. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   7. Paper-Faced Type: Gypsum wallboard as defined in ASTM C1396/C1396M.
   8. Type: Fire resistance rated Type X, UL or WH listed.
   9. Thickness: 5/8 inch.
   10. Edges: Tapered.
   11. Products:
      a. USG Corp.; Sheetrock® Brand Mold Tough® VHI Firecode® X Panels.

D. Backing Board For Wet Areas: One of the following products:
   1. Application: Surfaces behind tile in wet areas including tub and shower surrounds, shower ceilings, and similar conditions.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. Glass Mat Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM C1178/C1178M.
      a. Standard Type: Thickness 1/2 inch.
      b. Fire Resistant Type: Type X core, thickness 5/8 inch, where indicated.
      c. Products:
         1) Georgia-Pacific Gypsum; DensShield Tile Backer.

E. Backing Board For Non-Wet Areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.
   1. Application: Vertical surfaces behind thinset tile, except in wet areas.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
   4. Type: Regular and Type X, in locations indicated.
   5. Type X Thickness: 5/8 inch.
   6. Regular Board Thickness: 1/2 inch.
   7. Edges: Tapered.

F. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Ceilings, unless otherwise indicated.
   2. Thickness: 1/2 inch.
   3. Edges: Tapered.

2.4 ACCESSORIES

A. Mineral Fiber Batt Insulation: Unfaced mineral fiber blanket insulation produced by combining mineral fibers manufactured from slag wool or rock wool as required to achieve required acoustical and fire rating for the assembly, with thermosetting resins to comply with ASTM C665ASTM C665 for Type I (blankets without membrane facing).

B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

C. Fire and Smoke Seals: In accordance with UL (FRD).

D. Finishing Accessories: ASTM C1047, paper-faced galvanized steel, unless noted otherwise.
   1. Types: As detailed or required for finished appearance.

E. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
   1. Tape: 2-inch wide, creased paper tape for joints and corners, except as otherwise indicated.
   2. Ready-mixed vinyl-based joint compound.
   3. Chemical hardening type compound.

F. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.

G. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

H. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion resistant.

I. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

J. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

K. Firestopping Pad: International Protective Coating Inc.; FSP 1077 Flame Safe Pads.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

B. Proceed only after unsatisfactory conditions have been corrected. Commencement of work in this section will be an indication of the acceptance of substrate conditions and the Contractor will be held responsible for the satisfactory execution and results of the finished work.

3.2 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.

B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
   1. Level ceiling system to a tolerance of 1/1200.
   2. Laterally brace entire suspension system.
   3. Install bracing as required at exterior locations to resist wind uplift.

C. Studs: Space studs at 16 inches on center.
   1. Extend partition framing to structure where indicated and to ceiling in other locations.
   2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.

D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

E. Standard Wall Furring: Install at concrete walls scheduled to receive gypsum board, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
   1. Orientation: Horizontal.
   2. Spacing: As indicated.

F. Blocking: Install wood blocking for support of:
   1. Framed openings.
   2. Wall mounted cabinets.
   3. Plumbing fixtures.
   4. Toilet partitions.
   5. Toilet accessories.
   6. Wall mounted door hardware.
   7. Millwork.
   8. Wall mounted equipment.
   9. Similar wall mounted items indicated and required.

3.3 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
   1. Place one bead continuously on substrate before installation of perimeter framing members.
   2. Place continuous bead at perimeter of each layer of gypsum board.
   3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

3.4 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Double-Layer Non-Rated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Use glass mat faced gypsum board at exterior walls and at other locations as indicated. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.

D. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

E. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.

F. Elevator Shafts: In elevator shafts where gypsum board shaft-wall assemblies cannot be positioned within 2 inches of the shaft face of structural beams, floor edges, and similar projections into shaft, install 1/2 or 5/8 inch thick, gypsum board cants covering tops of projections as follows:
   1. Slope cant panels at least 75 degrees from horizontal. Set base edge of panels in adhesive and secure top edges to shaft walls at 24 inches o.c. with screws fastened to shaft-wall framing.
   2. Where required to support gypsum board cants, install steel framing spaced at 24 inches o.c. maximum; extend studs form top of projection to shaft-wall framing behind cant.

G. Cementitious Backing Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.

H. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of non-rated double-layer assemblies, which may be installed by means of adhesive lamination.

3.5 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
   2. At exterior soffits, not more than 30 feet apart in both directions.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.6 JOINT TREATMENT

A. Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, bedded and finished with chemical hardening type joint compound.

B. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.

C. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   2. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.

D. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.
   2. Taping, filling, and sanding is not required at base layer of double layer applications.

E. Partial Finishing: Omit third coat and sanding on concealed drywall construction which is indicated for drywall finishing or which requires finishing to achieve fire-resistance rating, sound rating or to act as air or smoke barrier.

F. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.7 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/16" offsets between planes of board faces, and 1/8" in 8' for plumb, level, warp, and bow.

END OF SECTION 09 29 00

SECTION 09 30 13 - CERAMIC TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Porcelain tile.
2. Tile backing panels.
3. Waterproof membranes.
4. Crack isolation membranes.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples:

1. Each type and composition of tile and for each color and finish required.
2. Assembled samples mounted on a rigid panel, with grouted joints, for each type and composition of tile and for each color and finish required.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.

1.5 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer is a Five-Star member of the National Tile Contractors Association or a Trowel of Excellence member of the Tile Contractors' Association of America].
2. Installer's supervisor for Project holds the International Masonry Institute's Foreman Certification.
3. Installer employs only Ceramic Tile Education Foundation Certified Installers or installers recognized by the U.S. Department of Labor as Journeyman Tile Layers for Project.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide Standard-grade tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.

2.2 TILE PRODUCTS

A. Porcelain Wall Tile Type: Unglazed. TL-01

1. Manufacturers:
   a. Crossville
2. Certification: Tile certified by the Porcelain Tile Certification Agency.
3. Face Size: 4 by 12 inches
4. Face Size Variation: Rectified.
5. Thickness: 9.5mm
6. Face: As indicated.
7. Tile Color, Glaze, and Pattern: Color Blox 2.0, color: Slinky
8. Grout Color: Mapei, 107 Iron

B. Porcelain Floor Tile Type: Unglazed. TL-02

1. Manufacturers:
   a. Crossville
2. Certification: Tile certified by the Porcelain Tile Certification Agency.
3. Face Size: 12 by 24 inches
4. Face Size Variation: Rectified.
5. Thickness: 9.5mm
6. Face: As indicated.
7. Dynamic Coefficient of Friction: Not less than 0.42.
8. Tile Color, Glaze, and Pattern: Color Blox 2.0, color: Slinky
9. Grout Color: Mapei, 107 Iron

C. Porcelain Wall Tile Type: Unglazed. TL-03

1. Manufacturers:
   a. Crossville
2. Certification: Tile certified by the Porcelain Tile Certification Agency.
3. Face Size: 4 by 12 inches
4. Face Size Variation: Rectified.
5. Thickness: 9.5mm
6. Face: As indicated.
7. Tile Color, Glaze, and Pattern: Retro Active 2.0, color: selected from standard manufacturer colors
8. Grout Color: Mapei, 107 Iron

D. Trim Units, TL-04: installed only at porcelain floor and walls with paint, shapes as follows, selected from manufacturer's standard shapes:
   1. Base: bullnose trim, module size 4 x 12 inches
      1) Manufacturer, Crossville, Pattern: Blox 2.0, Color: Slinky, Size: 4'x24"

2.3 TILE BACKING PANELS

A. Fiber-Cement Backer Board: ASTM C1288.
   1. Cementitious Backer Units: ANSI A118.9 or ASTM C1325, Type A. in maximum lengths available to minimize end-to-end butt joints.
   2. Thickness: 5/8 inch.

2.4 WATERPROOF MEMBRANES

A. General: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

B. Waterproof Membrane, Polyethylene Sheet: Polyethylene faced on both sides with fleece webbing; 0.008-inch nominal thickness.

2.5 CRACK ISOLATION MEMBRANES

A. General: Manufacturer's standard product that complies with ANSI A118.12 for high performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

B. Crack Isolation Membrane, Polyethylene Sheet: Polyethylene faced on both sides with fleece webbing; 0.008-inch nominal thickness.

2.6 SETTING MATERIALS

A. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.02.

B. Modified Dry-Set Mortar (Thinset): ANSI A118.4.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Laticrete
      b. Mapei
      c. Bostik
   2. Provide prepackaged, dry-mortar mix combined with liquid-latex additive at Project site.
   3. For wall applications, provide nonsagging mortar.

2.7 GROUT MATERIALS

A. Sand-Portland Cement Grout: ANSI A108.10, consisting of white or gray cement and white or colored aggregate as required to produce color indicated.

B. High-Performance Tile Grout: ANSI A118.7.

1. Manufacturers:
   a. Mapei, color: 107 Iron
2. Polymer Type:
   a. Liquid-latex form for addition to prepackaged dry-grout mix.

2.8 MISCELLANEOUS MATERIALS

A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

B. Metal Edge Strips: Angle or L-shape, height to match tile and setting-bed thickness, metallic or combination of metal, designed specifically for flooring applications; stainless steel, ASTM A276/A276M or ASTM A666, 300 Series exposed-edge material.
1. Schluter Systems L.P., Schiene profile, metal finish selected from standard profiles, TR-01
2. Schluter Systems L.P., Reno-U profile, metal finish selected from standard profiles, TR-02

C. Metal Wall Base Strips: Cove shaped profile; height to match tile and setting-bed thickness stainless steel, ASTM A276/A276M or ASTM A666, 300 Series exposed-edge material.
1. Schluter Systems L.P., Dilex

D. Floor Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
2. Verify that concrete substrates for tile floors installed with thinset mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.

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

3.2 PREPARATION

A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with **thinset mortar** with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

B. Where indicated, prepare substrates to receive waterproof membrane by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 inch per foot toward drains.

C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.3 INSTALLATION

A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.

B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

D. Where accent tile differs in thickness from field tile, vary setting bed thickness so that tiles are flush.

E. Jointing Pattern: Lay tile in indicated pattern. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

F. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:
   1. Glazed Wall Tile: 3/16 inch.
   2. Porcelain Tile: 3/16 inch.

G. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.

   1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.

H. Metal Edge Strips: Install where exposed edge of tile flooring meets carpet, other flooring that finishes flush or below top of tile.

I. Metal Cove Strips: install at all floor tile.

J. Floor Sealer: Apply floor sealer to cementitious grout joints in tile floors according to floor-sealer manufacturer's written instructions. As soon as floor sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

K. Install tile backing panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated.Use modified dry-set mortar for bonding material unless otherwise directed in manufacturer's written instructions.

L. Install waterproof membrane to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.

M. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness that is bonded securely to substrate.

3.4 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

A. Interior Floor Installations, Concrete Subfloor:

1. TCNA F122: Thinset mortar on waterproof membrane, TL-02
   a. Thinset Mortar: Modified dry-set mortar.
   b. Grout: High-performance unsanded grout.

2. TCNA F125-Full, Thinset mortar on crack isolation membrane, TL-02
   a. Thinset Mortar: Modified dry-set mortar.
   b. Grout: High-performance unsanded grout.

B. Interior Wall Installations, Metal Studs or Furring:

1. TCNA W244C or TCNA W244F: Thinset mortar on cementitious backer units or fiber-cement backer board over vapor-retarder membrane, TL-01, TL-03, TL-04.
   a. Thinset Mortar: Modified dry-set mortar.
   b. Grout: High-performance unsanded grout.

END OF SECTION 09 30 13

SECTION 09 51 23 - ACOUSTICAL TILE CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Acoustical tiles.
2. Metal suspension system.
3. Accessories.
4. Metal edge moldings and trim.

B. Related Requirements:

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plans, drawn to scale, and coordinated with each other, using input from installers of the items involved.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

PART 2 - PRODUCTS

2.1 ACOUSTICAL TILES, ACT-01.

A. Manufacturer:
1. USG

B. Product:
1. Mars # 86185

C. Acoustical Tile Standard: Manufacturer's standard tiles of configuration indicated that comply with ASTM E1264.

D. Classification: Mineral Fiber 2x2

E. Color: Custom to match architect sample

F. Light Reflectance (LR): .9

G. Ceiling Attenuation Class (CAC): 35

H. Noise Reduction Coefficient (NRC): .75

I. Edge/Joint Detail: Square

J. Thickness: 3/4 inch

K. Modular Size: 24 by 24 inches

2.2 METAL SUSPENSION SYSTEM, ACT-01

A. Manufacturer:
1. USG

B. Product:
a. DXT, 9/16” System, color: custom pre-finished in factory to match architect sample

C. Metal Suspension-System Standard: Manufacturer's standard, direct-hung, fully concealed, metal suspension system that complies with applicable requirements in ASTM C635/C635M.

D. Direct-Hung, Double-Web Suspension System: Main and cross runners roll formed from and capped with cold-rolled steel sheet, prepainted, electrolytically zinc coated, or hot-dip galvanized, G30 coating designation.

1. Structural Classification: Heavy-duty system.
2. Access: Upward and side pivoted, with initial access openings of size indicated below and located throughout ceiling within each module formed by main and cross runners, with additional access available by progressively removing remaining acoustical tiles.

a. Initial Access Opening: In each module, 24 by 24 inches.

2.3 ACCESSORIES

A. Attachment Devices: Size for five times the design load indicated in ASTM C635/C635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.

B. Seismic Clips: Manufacturer's standard seismic clips designed to secure acoustical tiles in-place during a seismic event.

2.4 METAL EDGE MOLDINGS AND TRIM

A. USG Corporation

B. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations complying with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for of suspension-system runners.

PART 3 - EXECUTION

3.1 PREPARATION

A. Measure each ceiling area and establish layout of acoustical tiles to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width tiles at borders unless otherwise indicated.

B. Layout openings for penetrations centered on the penetrating items.

3.2 INSTALLATION OF SUSPENDED ACOUSTICAL TILE CEILINGS

A. Install suspended acoustical tile ceilings in accordance with ASTM C636/C636M and manufacturer's written instructions.

B. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical tiles.
   1. Do not use exposed fasteners, including pop rivets, on moldings and trim.

END OF SECTION 09 51 23

SECTION 09 65 13 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Thermoset-rubber base.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified.

PART 2 - PRODUCTS

2.1 THERMOSET-RUBBER BASE

A. Johnsonite / Tarkett

B. Product Standard: ASTM F1861, Type TS (rubber, vulcanized thermoset), Group I (solid, homogeneous).

1. Style and Location:

a. Style A, Straight: Provide in areas with carpet.-RB-01
b. Style B, Cove: Provide in areas with resilient floor coverings.-RB-02

C. Thickness: 0.125 inch.

D. Height: 4”

E. Lengths: Coils in manufacturer's standard length.

F. Outside Corners: Job formed.

G. Inside Corners: Job formed.

H. Colors: Mink WG

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
   1. Moisture Testing: Perform tests so that each test area does not exceed **1000 sq. ft.** perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
      a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
      b. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.

B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

C. Do not install resilient products until materials are the same temperature as space where they are to be installed.

D. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.2 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.

D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

E. Do not stretch resilient base during installation.

F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.

G. Job-Formed Corners:
   1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches in length.
      a. Form without producing discoloration (whitening) at bends.

2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches in length.

    a. Miter corners to minimize open joints.

3.3 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.

B. Floor Polish: Remove soil, adhesive, and blemishes from resilient stair treads before applying liquid floor polish.

1. Apply coats as required by manufacturer.

C. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 09 65 13

SECTION 09 65 43 - LINOLEUM FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Linoleum floor tile.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

C. Samples: For each exposed product and for each color and pattern specified.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for flooring installation and seaming methods indicated.

PART 2 - PRODUCTS

2.1 LINOLEUM FLOOR TILE RT-01

A. Manufacturer: Forbo

B. Linoleum Floor Tile: ASTM F2195, Type III, linoleum floor tile without backing.

1. Nominal Floor Tile Size: 39.37 in x 9.84 in

C. Thickness: 0.10 inch

D. Colors and Patterns:
1. Pattern: Marmoleum Modular
2. Color: as selected from standard manufacturer colors

2.2 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by linoleum flooring manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by flooring and adhesive manufacturers to suit products and substrate conditions indicated.

C. Floor Polish: Provide protective, liquid floor-polish products recommended by linoleum flooring manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare substrates according to linoleum flooring manufacturer's written instructions to ensure adhesion of flooring.

B. Concrete Substrates: Prepare according to ASTM F710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with flooring adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by linoleum flooring manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by linoleum flooring manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
4. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft.and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft > in 24 hours.
    b. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install flooring until materials are the same temperature as space where they are to be installed.

1. At least 72 hours in advance of installation, move flooring and installation materials into spaces where they will be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by flooring.

3.2 INSTALLATION, GENERAL

A. Comply with manufacturer's written instructions for installing flooring.

B. Extend flooring into toe spaces, door reveals, closets, and similar openings.

C. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on flooring as marked on substrates. Use chalk or other nonpermanent marking device.

D. Adhere flooring to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.3 LINOLEUM FLOOR TILE INSTALLATION

A. Lay out linoleum floor tiles from center marks established with principal walls, discounting minor offsets, so floor tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.

1. Lay floor tiles in pattern indicated.

B. Match linoleum floor tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed floor tiles.

1. Lay floor tiles in pattern of colors and sizes indicated on drawings.

3.4 CLEANING AND PROTECTION

A. Floor Polish: Remove soil, adhesive, and blemishes from linoleum flooring surfaces before applying liquid floor polish.

1. Apply two coat(s).

B. After allowing drying room film (yellow film caused by linseed oil oxidation) to disappear, cover linoleum flooring until Substantial Completion.

END OF SECTION 09 65 43

SECTION 09 68 13 - TILE CARPETING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Modular carpet tile.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site Insert location.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For carpet tile installation, plans showing the following:

1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet tiles.
2. Carpet tile type, color, and dye lot.
3. Type of subfloor.
4. Type of installation.
5. Pattern of installation.
6. Pattern type, location, and direction.
7. Custom pattern location and layouts with colors identified.
8. Pile direction.
9. Type, color, and location of insets and borders.
10. Type, color, and location of edge, transition, and other accessory strips.
11. Transition details to other flooring materials.

C. Samples:

1. For each exposed product and for each color and texture required.
2. Color yarn for selection of custom logo
3. Final Strike offs for approval.

1.4 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Sample warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Certified by the International Certified Floorcovering Installers Association at the Commercial II Master II Insert description certification level.

1.7 WARRANTY

A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CARPET TILE, CPT-01

A. Manufacturers:
1. J and J

B. Color: As indicated on the Material Legend
1. Rojo 1723

C. Pattern: Match Architect's samples
1. Flash

D. Pile Characteristic: Textile Composite

E. Total thickness: .205 inches

F. Total Weight: 4.5 oz – 5.2 /square foot

G. Technologies: Kinetex Protex

H. Primary Backing/Backcoating: Polyester Felt Cushion

I. Size: 24 by 24 inches

2.2 CARPET TILE, CPT-02

A. Manufacturers:
1. J and J

B. Color: Custom to match Lakeland College logo

C. Pattern: Custom to match Lakeland College logo
   1. Manufacturer to match EPS format logo as provided by architect

D. Pile Characteristic: Textile Composite

E. Total thickness: .205 inches

F. Total Weight: 4.5 oz – 5.2 /square foot

G. Technologies: Kinetex Protex

H. Primary Backing/Backcoating: Polyester Felt Cushion

I. Size: 24 by 24 inches

2.3 INSTALLATION ACCESSORIES

A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.

B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that comply with flammability requirements for installed carpet tile, and are recommended by carpet tile manufacturer for releasable installation.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Concrete Slabs:

   1. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft. Insert area, and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
      a. Relative Humidity Test: Using in situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 Insert number percent relative humidity level measurement.
      b. Perform additional moisture tests recommended in writing by adhesive and carpet tile manufacturers. Proceed with installation only after substrates pass testing.

3.2 PREPARATION

A. General: Comply with the Carpet and Rug Institute's CRI 104 and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile.

B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch unless more stringent requirements are required by manufacturer's written instructions.

C. Concrete Substrates: Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by adhesive and carpet tile manufacturers.

D. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION

A. General: Comply with the Carpet and Rug Institute's CRI 104, Section 10, "Carpet Tile," and with carpet tile manufacturer's written installation instructions.

B. Installation Method: Glue down

C. Pattern: Ashlar for CPT-01, monolithic for CPT-02

D. Maintain dye-lot integrity. Do not mix dye lots in same area.

E. Maintain pile-direction patterns indicated on Drawings recommended in writing by carpet tile manufacturer.

F. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.

G. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.

H. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on carpet tile as marked on subfloor. Use nonpermanent, nonstaining marking device.

I. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 09 68 13

SECTION 09 72 00 - WALL COVERINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Olefin wallcovering

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include data on physical characteristics, durability, fade resistance, and fire-test-response characteristics.

B. Samples for Verification: For each type of wall covering and for each color, pattern, texture, and finish specified, full width by 36 inches long in size.

1. Wall-Covering Sample: From same production run to be used for the Work.

a. Show complete pattern repeat.

C. Product Schedule: For wall coverings WC-01.

1.5 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each wall covering, for tests performed by a qualified testing agency.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For wall coverings to include in maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same production run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Wall-Covering Materials: For each type, color, texture, and finish, full width by length to equal to 5 percent of amount installed.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install wall coverings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and HVAC system is operating and maintaining ambient temperature and humidity conditions at levels intended for occupants after Project completion during the remainder of the construction period.

B. Lighting: Do not install wall covering until lighting that matches conditions intended for occupants after Project completion is provided on the surfaces to receive wall covering.

C. Ventilation: Provide continuous ventilation during installation and for not less than the time recommended by wall-covering manufacturer for full drying or curing.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: As determined by testing identical wall coverings applied with identical adhesives to substrates in accordance with test method indicated below by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

2.2 THERMOPLASTIC-POLYOLEFIN WALL COVERING WC-01

A. Manufacturer:
1. Momentum

B. Pattern:
a. Barege

C. Color:
a. Nuage

D. Description: Provide products complying with Wallcoverings Association's W-101; free of PVC, chlorine, plasticizers, formaldehyde, heavy metals, and halogenated fire retardants; with water-based inks and coatings; with antimicrobial additives; and in rolls from same production run.

1. Type: Type II, Medium Duty.

E. Total Weight: 20 oz excluding coatings.

F. Width: 52/54 inches.

G. Backing: Osnaburg

H. Repeat: 3 5/8" V x 1 3/4" H

2.3 ACCESSORIES

A. Adhesive: Mildew-resistant, nonstaining adhesive, for use with specific wall covering and substrate application indicated and as recommended in writing by wall-covering manufacturer.

B. Primer/Sealer: Mildew resistant, recommended in writing by primer/sealer and wall-covering manufacturers for intended substrate.

C. Metal Primer: Interior ferrous metal primer recommended in writing by primer and wall-covering manufacturers for intended substrate.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation surfaces being true in plane and vertical and horizontal alignment, maximum moisture content, and other conditions affecting performance of the Work.

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

3.2 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

B. Clean substrates of substances that could impair bond of wall covering, including dirt, oil, grease, mold, and mildew.

C. Prepare substrates to achieve a smooth, dry, clean, structurally sound surface free of flaking, unsound coatings, cracks, and defects.

1. Moisture Content: Maximum of 5 percent on new plaster, concrete, and concrete masonry units when tested with an electronic moisture meter.
2. Plaster: Allow plaster to cure for at least 90 days. Neutralize areas of high alkalinity. Apply primer/sealer as recommended in writing by primer/sealer manufacturer and wall-covering manufacturer.
3. Gypsum Board: Apply primer/sealer as recommended in writing by primer/sealer manufacturer and wall-covering manufacturer.
4. Painted Surfaces:

a. Check for pigment bleeding. Apply primer/sealer to areas susceptible to pigment bleeding as recommended in writing by primer/sealer manufacturer.
b. Sand gloss, semigloss, and eggshell finishes with fine sandpaper.

D. Remove hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.

E. Acclimatize wall-covering materials by removing them from packaging in the installation areas not less than 24 hours before installation.

3.3 INSTALLATION OF WALL COVERING

A. Comply with wall-covering manufacturers' written installation instructions applicable to products and applications indicated.

B. Cut wall-covering strips in roll number sequence. Change the roll numbers at partition breaks and corners.

C. Install strips in same order as cut from roll.

1. For solid-color, even-texture, or random-match wall coverings, reverse every other strip.

D. Install wall covering without lifted or curling edges and without visible shrinkage.

E. Match pattern as directed by manufacturer.

F. Install seams vertical and plumb at least 6 inches from outside corners and 3 inches] from inside corners unless a change of pattern or color exists at corner. Horizontal seams are not permitted.

G. Trim edges and seams for color uniformity, pattern match, and tight closure. Butt seams without overlaps or gaps between strips.

H. Fully bond wall covering to substrate. Remove air bubbles, wrinkles, blisters, and other defects.

3.4 CLEANING

A. Remove excess adhesive at seams, perimeter edges, and adjacent surfaces.

B. Use cleaning methods recommended in writing by wall-covering manufacturer.

C. Replace strips that cannot be cleaned.

D. Reinstall hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.

END OF SECTION 09 72 00

SECTION 09 91 23 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Surface preparation for new construction.

B. Field application of paints and stains.

C. Materials for back priming woodwork.

D. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
   1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment. Paint back of panels prior to installation panels on wall.
   2. Surfaces inside cabinets.
   3. Prime paint surfaces to receive wall coverings.
   4. Mechanical and Electrical:
      a. In finished areas and where exposed to view, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
      b. In finished areas, paint shop-primed items.
      c. Paint interior surfaces of air ducts and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
      d. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

E. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes unless prime painting is required.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
   5. Stainless steel, anodized aluminum, chrome plated, bronze, terne coated stainless steel, and lead items.
   6. Marble, granite, slate, and other natural stones.
   7. Floors, unless specifically indicated.
   8. Ceramic and other tiles.
   9. Brick, architectural concrete, cast stone, integrally colored plaster, and stucco.
   10. Glass.
   11. Concrete masonry units in utility, mechanical, and electrical spaces.
   12. Acoustical materials, unless specifically indicated.
   13. Concealed pipes, ducts, and conduits.
   14. Architectural woodwork.
   15. Metal lockers.
   16. Elevator equipment.

F. Surface Preparation for Renovation Painting for procedures related to preparation of existing surfaces and substrates indicated to receive coatings.

1.2 DEFINITIONS

A. Conform to ASTM D16 for interpretation of terms used in this section.

B. Gloss ranges used in this Section include the following:
1. Flat refers to a lusterless or matte finish with a gloss range below 5 when measured at a 60-degree meter.
2. Eggshell refers to low-sheen finish with a gloss range between 5 and 10 when measured at a 60-degree meter.
3. Satin refers to low-sheen finish with a gloss range between 10 and 35 when measured at a 60-degree meter.
4. Semi-gloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.
5. Full gloss refers to high-sheen finish with a gloss range more than 70 when measured at a 60-degree meter.

C. Concealed to View: Refers to surfaces, materials, assemblies, or items that cannot be accessed without moving a permanent building element, such as portion of wall or ceiling.

D. Exposed to View: Refers to any item or surface that is not concealed.
1. Exposed to Public View: Refers to any item located, mounted, or otherwise situated so as to be viewable from a height of 18" - 80" above finished floor level from a public location. A public location is defined as any area of the building that does not restrict access by the intended occupants of the building or is accessible only to building maintenance or engineering staff.

1.3 REFERENCE STANDARDS

A. ASTM A780/A780M - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings; 2009 (Reapproved 2015).

B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2016.

C. ASTM D3359 - Standard Test Method for Rating Adhesion by Tape Test; 2017.

D. ASTM D6677 - Standard Test Method for Evaluating Adhesion by Knife; 2007.

E. NFPA 10 - Standard for Portable Fire Extinguishers; 2017.

F. PDCA P1 - Touch Up Painting and Damage Repair: Financial Responsibility and Definition of a Properly Painted Surface; Current Edition.

G. PDCA P5 - Benchmark Sample Procedures for Paint and Other Decorative Coating Systems; Current Edition.

H. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); 2002 (Ed. 2004).

I. SSPC-SP 1 - Solvent Cleaning; 2015.

J. SSPC-SP 3 - Power Tool Cleaning; 1982 (Ed. 2004).

K. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

L. SSPC-SP 7 - Brush-Off Blast Cleaning; 2007.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct a preinstallation meeting at least one week prior to the start of the work of this section.
   1. Ensure required submittals have been provided with sufficient time for review prior to scheduling the Preinstallation Meeting.
   2. Review the detailed requirements for the work of this section and to review the drawings and specifications for this work.
   3. Require attendance by all affected installers including but not limited to
      a. Contractor's Superintendent
      b. Installer
      c. Manufacturer/Fabricator Representative
      d. Other affected Subcontractors
      e. Architect/Engineer of Record
      f. Board’s Representative
   4. Review substrates and detail any necessary repair work.
   5. Verify that expansion joints, joints at change of plane, joints at change of substrates, and joints at all penetrations by signage, downspouts, or gutters have been sealed. Joints must be sealed before application.
   6. Review the Benchmark Sample for the following:
      a. Surface Preparation.
      b. Coverage rates.
      c. Color.
      d. Sheen uniformity.
      e. Pinholing.
      f. Application techniques.
   7. Record minutes and distribute copies within 5 days after meeting to participants as well as Architect/Engineer of Record, Board and those affected by decisions made.

1.5 SUBMITTALS

A. See Section 01 33 23 – Shop Drawings, Product Data & Samples for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
   2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

C. Initial Selection Samples: Submit manufacturer's color charts illustrating full range of available colors and textures for each type of product and finish required for the Project.

1. Confirm availability of colors specified by Architect/Engineer of Record with the manufacturer and notify the Architect/Engineer of Record in writing if any discrepancies, including lack of availability, should occur.

D. Verification Samples: Submit three "draw down" samples, 12 by 12 inches in size, illustrating range of colors and sheens available for each finishing product specified, prepared on hardboard.
1. Each sample shall be labeled with the following:
a. Project name and number.
b. Date.
c. Manufacturer's name.
d. Installer's name.
e. Product name.
f. Product number.
g. Color name and number as stated in the color schedule.
h. Name, address, and phone number of the supplying facility.
2. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
3. Provide a list of materials and applications for each coat of each sample. Label each sample for location and application (e.g., "classroom ceiling").

E. Warranty Documentation: Provide a letter of "intent to warranty," including manufacturer warranty and ensuring that forms have been completed in Board's name and registered with manufacturer for length of term indicated in warranty paragraphs below.

F. Maintenance Materials: Furnish the following for Board's use in maintenance of project.
1. Extra Paint and Finish Materials: 5% of the amount installed, but not less than 1 gallon of each finish and color; from the same product run, store where directed.
2. Label each container with color and room names or numbers where paint was used without obscuring manufacturer's label.
3. Deliver materials to the location designated by the Architect/Engineer of Record or Board Representative.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years documented experience and written approval by the manufacturer.

B. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.

1.7 MOCK-UP

A. Provide mock-up of each type of coating on each substrate required, 10 feet long by 10 feet wide, illustrating coating, color, and surface sheen, for each specified coating. Comply with procedures in PDCA P5. Duplicate finish of approved sample submittals.

B. Locate where directed.

C. After permanent lighting and other environmental services have been activated, apply coatings in this room or to each surface according to the Schedule or as specified. Provide required sheen, color, and texture on each surface.
   1. After finishes are accepted, the Architect/Engineer of Record will use the room to evaluate coating systems of a similar nature.

D. Approved benchmark mockups will be used to evaluate coating systems.

E. Obtain Architect/Engineer of Record's approval of benchmark mockups before starting application of coatings.

F. Final approval of colors will be from benchmark mockups.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.
   1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

D. Fire Protection: Furnish fire protection, including, but not limited to, portable fire extinguishers, on site as required by authorities having jurisdiction. Comply with NFPA 10 for selection, distribution, and use of units. In addition, furnish fire protection equipment at locations where heat removal methods are used.

1.9 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply materials when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.

D. Minimum Application Temperatures for Paints: 50 degrees F for interiors unless required otherwise by manufacturer's instructions.

E. Do not install painting until permanent lighting systems has been installed and is operational.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer, no exceptions.

B. Paints:
1. Benjamin Moore (BM).
2. PPG Paints (PPG).
3. Sherwin-Williams Company (S-W).
4. Tnemec: www.tnemec.com.

C. Stains:
1. Benjamin Moore (BM).
2. PPG Paints (PPG).
3. Sherwin-Williams Company (S-W).
4. Tnemec: www.tnemec.com.

2.2 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. Supply each paint material in quantity required to complete entire project's work from a single production run.
4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions. Contractor to provide correct paint type to match color and finish of adjacent surfaces.

B. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect/Engineer of Record from the manufacturer's full line.

C. Colors: To be selected from manufacturer's full range of available colors.
1. Selection to be made by Architect/Engineer of Record after award of contract.
2. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Board.
3. Extend colors to surface edges; colors may change at any edge as directed by Architect/Engineer of Record.
4. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.3 PAINT SYSTEMS

A. CMU Substrates:

1. Dry Environments:
   a. One (1) coat, latex block filler: applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 5.0 mils
      1) BM: Ultra Spec Acrylic Latex Block Filler (45 g/L)
      2) PPG: 6-7 SpeedHide Interior/Exterior Masonry Latex Block Filler (28 g/L VOC).
      3) S-W: Preprite Latex Block Filler, B25W25 (<50 g/L VOC).
      4) Tnemec: Series 130 Envirofill (71 g/L)
   b. Two (2) coats, acrylic-latex enamel (eggshell): applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils
      1) BM: : N538 Ultra Spec 500 Acrylic Zero VOC Eggshell Enamel (0g/L)
      2) PPG: Speedhide Zero VOC 6-4310XI (< 50 g/L VOC).
      3) S-W: ProMar 200 Zero VOC Interior Latex EggShell, B20W2600 (<50 g/L VOC).
      4) Tnemec: Series 1026 Enduratone (48 g/L)
2. Wet Environments:
   a. One (1) coat, epoxy block filler: applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 10.0 mils
      1) BM: Corotech V163 Waterborne Epoxy Block Filler (<85g/L)
      2) PPG: Amerlock Epoxy Block Filler 400 BF (98 g/L VOC).
      3) S-W: Heavy Duty Block Filler, B42W46 (< 100 g/L VOC).
      4) Tnemec: Series 215 Surfacing Epoxy (0 g/L)
   b. Two (2) coats, epoxy finish (Wet Environments): applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.5 mils
      1) BM: Corotech Pre-Catalyzed Waterborne Epoxy V341 Semi-Gloss or V342 Eggshell (< 70 g/L VOC).
      2) PPG: Pitt-Glaze WB1 Pre-Catalyzed Epoxy Eggshell (93 g/L VOC).
      3) S-W: Pro Industrial WB Catalyzed Interior Gloss or EggShell, B73 Series (< 50 g/L VOC).
      4) Tnemec: Series 287 Enviro-pox (6 g/L).

B. Gypsum Board Substrate:
1. Walls:
   a. One (1) coat, latex primer: applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils.
      1) BM: N534 Ultra Spec 500 Interior Latex Primer (0 g/L)
      2) PPG: 6-4900XI Speedhide Zero VOC Primer (< 50 g/L VOC).
      3) S-W: ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (< 50 g/L VOC).
      4) Tnemec: Series 1026 Enduratone (48 g/L).
   b. Two (2) coats, -acrylic-latex enamel (semigloss): applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6- mils.
      1) BM: N538 Ultra Spec 500 Acrylic Zero VOC Semigloss Enamel (0g/L)
      2) PPG: 6-4310XI Speedhide Zero VOC Semigloss (< 50 g/L VOC).
      3) S-W: ProMar 200 Zero VOC Interior Latex Semigloss, B20W2600 (< 50 g/L VOC).
      4) Tnemec: Series 1026 Enduratone (48 g/L).
2. Ceilings: applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils
   a. One (1) coat, latex primer:
      1) BM: Coronado 40 Super Kote 5000 Acrylic Latex Primer (<50g/L) or Super Hide Zero VOC Interior Latex Primer 354 (0g/L)
      2) PPG: 6-4900XI Speedhide Zero VOC Primer (< 50 g/L VOC).
      3) S-W: ProMar 400 Zero VOC Interior Primer, B28W4600 (< 50 g/L VOC).
      4) Tnemec: Series 1026 Enduratone (48 g/L).

b. Two (2) coats, Acrylic-Latex (flat): applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6- mils.
   1) BM: Coronado 88 Super Kote 1000 Latex Flat (<50g/L) or Super Hide Zero VOC Interior Flat 355 (0g/L)
   2) PPG: 6-4110XI Speedhide Zero VOC Flat (0g/L).
   3) S-W: ProMar 400 Zero VOC Interior Latex Flat, B30-4600 (< 50 g/L).
   4) Tnemec: Series 1026 Enduratone (48 g/L).

3. Ceilings:
   a. One (1) coat, latex primer: applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils.
      1) BM: N027 Sure Seal Latex Primer Sealer (< 50 g/L VOC) or Super Hide Zero VOC Interior Latex Primer 354 (0g/L).
      2) PPG: 6-4900XI Speedhide Zero VOC Primer (0 g/L VOC).
      3) S-W: ProMar 200 Zero VOC Interior Primer, B28W02600 0 g/L VOC).
      4) Tnemec: Series 1026 Enduratone (48 g/L).
   b. Two (2) coats, Acrylic-Latex (flat): applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.5 mils.
      1) BM: Coronado 88 Super Kote 1000 Latex Flat (<50g/L) or Super Hide Zero VOC Interior Flat 355 (0g/L)
      2) PPG: 6-4110XI Speedhide Zero VOC Flat.
      3) S-W: ProMar 400 Zero VOC Interior Latex Flat, B30-4600 (< 50 g/L).
      4) Tnemec: Series 1026 Enduratone (48 g/L).
4. Galvanized-Metal Substrates & Ductwork: Use heat resistant materials where required due to thermal output of item to be painted.
   a. One (1) coat, water-based primer: applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.5 mils
      1) BM: Ultra Spec HP Acrylic Metal Primer (54 g/L)
      2) PPG: 90-712 Pitt-Tech Interior/Exterior DTM Industrial Primer/Finish (123 g/L VOC).
      3) S-W: Pro Industrial Pro-Cryl Universal Primer, B66-310 (< 100 g/L VOC).
      4) Tnemec: Series 115 Uni-bond DF
   b. Two (2) coats, Water based enamel (satin): applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.3 mils.
      1) BM: N538 Ultra Spec 500 Acrylic Zero VOC Eggshell Enamel (0 g/L)
      2) PPG: 90-474 Pitt-Tech Interior/Exterior Satin DTM Industrial Enamel (227 g/L VOC).
      3) S-W: Pro Industrial High Performance Acrylic EggShell, B66-660 (< 50 g/L VOC).
      4) Tnemec: Series 1026 Enduratone (48 g/L).

C. Wood Substrate:
1. Doors, Frames, Trim and Chair Rails
   a. Opaque Alkyd System:
      1) One (1) coat, latex primer: applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils.
         a) BM: 0790 Advance Waterborne Interior Primer (44g/L VOC)
         b) PPG: Seal Grip Primer, 17-921 (<84 g/L VOC).
         c) S-W: Preprite Problock Latex, B51-600 (<50 g/L VOC).
      2) Two (2) coats, alkyd/oil enamel (semi-gloss): applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils.
         a) BM: 0793 Advance Waterborne Interior Semi-Gloss (48g/L VOC)
         b) PPG: 6-1510 SpeedHide Interior/Exterior WB Alkyd Semi (37 g/L VOC).
         c) S-W: ProMar 200 WB Acrylic-Alkyd Semi-Gloss, B34-8200 (<100 g/L VOC).

2.4 ACCESSORY MATERIALS

A. Accessory Materials: Provide cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Fastener Head Cover Material: Latex filler.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished with the applicator present 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.

D. Test moisture content of surfaces using an electronic moisture meter. Do not begin application of coatings unless moisture content of exposed surfaces (either new or bare), including fillers and patching materials, is below the following maximum values:
1. Gypsum wallboard: 12 percent.
2. Plaster: 12 percent.
3. Masonry surfaces: 12 percent.
4. Finish woodwork: 7%-10% moisture content
5. Wood surfaces: 15 percent.
6. Vertical concrete surfaces: 12 percent.
7. Horizontal concrete surfaces: 8 percent.

E. Proceed only after unsatisfactory conditions have been corrected. Commencement of work in this section will be an indication of the acceptance of substrate conditions and the Contractor will be held responsible for the satisfactory execution and results of the finished work.

3.2 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Masonry:
1. Remove efflorescence and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.

H. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

I. Galvanized Surfaces:
1. Clean to remove soluble contaminants with solvent or water-based cleaner/degreaser in accordance with SSPC-SP 1. If new zinc-coated metal, remove oil/passivator coating according to SSPC-SP 7.
2. Remove rust according to SSPC-SP 3.
3. Galvanizing Repair Paint: Provide SSPC-Paint 20 with dry film containing 94-percent (min.) zinc dust by weight to repair damaged galvanized coating according to ASTM A780/A780M.

J. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.3 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions.

C. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

E. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.

G. Sand wood and metal surfaces lightly between coats to achieve required finish. Clean surfaces prior to applying next coat.

H. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

I. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

J. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

K. Reinstall louvers, grilles, covers, and access panels on mechanical and electrical components.

3.4 FIELD QUALITY CONTROL

A. Board reserves the right to invoke the following field inspection test procedures at any time and as often as the Board deems necessary during the period when paint is being applied:
   1. The Board will engage the services of an independent testing agency to sample the paint material being used. Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.
   2. The Board may direct the Contractor to stop painting if test results show material being used does not comply with specified requirements. The Contractor shall remove non-complying paint from the site, pay for testing, and repaint surfaces previously coated with the rejected paint. If necessary, the Contractor may be required to remove rejected paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.
   3. Surfaces painted with rejected materials will have surface preparation re-done in accordance with specifications at Contractor's expense.
   4. The testing agency will perform on site and laboratory tests for the following characteristics as required by the Board Representative:
      a. Adhesion Tests: ASTM D3359 and ASTM D6677.
      b. Film thickness tests.
      c. Quantitative materials analysis.
      d. Apparent reflectivity.
      e. Washability.
      f. Dry Capacity.

3.5 CLEANING

A. Daily Cleanup: At the end of each workday, remove empty cans, rags, cleaning pads, rubbish, and other discarded paint materials from the site.

B. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces or to generate dust.

C. Final Cleanup: After completing painting, area shall be thoroughly cleaned to remove all dust and spattered paint and patching materials. All surfaces shall be washed clean to remove all dust and dirt, including dust and dirt that existed prior to painting. All Surfaces to be cleaned include every exposed surface in the space such as, walls, floors, ceilings, ledges, sills, soffits, surfaces of fixed equipment and accessories, conduits, wires, ducts, etc. Movable furniture and furnishings are required to be sealed in plastic sheeting prior to start of work. In the event of failures of polyethylene sheet, clean covered furniture, and furnishings to remove dust.

3.6 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Preliminary Acceptance. Comply with procedures specified in PDCA P1.

END OF SECTION 09 91 23

DOCUMENT 10 14 19 - DIMENSIONAL LETTER SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Dimensional characters.
    a. Cutout dimensional characters.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For signs.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
3. Show message list, typestyles, graphic elements, and layout for each sign at least 3” = 1’-0”

C. Samples: For each exposed product and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 WARRANTY

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

1. Warranty Period: lifetime warranty from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 DIMENSIONAL CHARACTERS

A. Cutout Characters See interior elevations: Characters with uniform faces; square-cut, smooth edges; precisely formed lines and profiles; and as follows:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. APCO Graphics, Inc.
   b. ASI Sign Systems, Inc.
   c. Cosco.
   d. Diskey Sign Company.
   e. Gemini Signage; Gemini, Inc.
   f. Matthews International Corporation; Bronze Division.
   g. Metal Arts.
   h. Metallic Arts.
   i. Southwell Company (The).
   j. Steel Art Company.
   k. inpro Corporation.

2. Character Material: Sheet or plate stainless steel.
3. Character Height: 6”
4. Thickness: ¼”
5. Finishes: Integral Stainless Steel Finish
   a. Integral Stainless Steel Finish: As selected by Architect from full range of industry finishes

6. Mounting: Pin-mounted

2.2 DIMENSIONAL CHARACTER MATERIALS

A. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304 stretcher-leveled standard of flatness.

2.3 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. Exposed Metal-Fastener Components, General:

   a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.

3. Sign Mounting Fasteners:

   a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.

2.4 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
2. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
3. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
4. Internally brace dimensional characters for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
5. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.
6. Castings: Fabricate castings free of warp, cracks, blowholes, pits, scale, sand holes, and other defects that impair appearance or strength. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks before finishing.

PART 3 - EXECUTION

3.1 INSTALLATION OF DIMENSIONAL CHARACTERS

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.

B. Mounting Methods:

1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.

a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.

C. Remove temporary protective coverings and strippable films as signs are installed.

END OF DOCUMENT 10 14 19

DOCUMENT 10 21 13.17 – STAINLESS STEEL TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Stainless steel toilet compartments.

1.2 COORDINATION

A. Coordinate requirements for blocking, reinforcing, and other supports concealed within wall to ensure that toilet compartments can be supported and installed as indicated.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Stainless steel toilet compartments.

a. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.

B. Shop Drawings:

1. Include plans, elevations, sections, details, and attachment details.
2. Show locations of cutouts for compartment-mounted toilet accessories.
3. Show locations of reinforcements for compartment-mounted grab bars and locations of blocking for surface-mounted toilet accessories.
4. Show locations of centerlines of toilet fixtures.
5. Show locations of floor drains.

C. Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available finishes for each type of toilet compartment.

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

D. Samples for Verification: Actual sample of finished products for each type of toilet compartment, hardware, and accessory.

1. Size: Manufacturers' standard size

E. Product Schedule: For toilet compartments, prepared by or under the supervision of supplier, detailing location and selected colors for toilet compartment material.

F. Delegated Design Submittals: For grab bars mounted on toilet compartment panels, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Include structural design calculations indicating compliance with specified structural-performance requirements.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For toilet compartments.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Extra Stock Material: Furnish extra materials to Owner that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Door Hinges: Three hinge(s) with associated fasteners.
2. Latch and Keeper: Three latch(es) and keeper(s) with associated fasteners.
3. Door Bumper: Three door bumper(s) with associated fasteners.
4. Door Pull: Three door pull(s) with associated fasteners.
5. Fasteners: Three fasteners of each size and type.

1.6 FIELD CONDITIONS

A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements, and coordinate before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 450 or less.

B. Structural Performance: Where grab bars are mounted on toilet compartments, design panels to comply with the following requirements:

1. Panels are able to withstand a concentrated load on grab bar of at least 250 lbf applied at any direction and at any point, without deformation of panel.

C. Regulatory Requirements: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1 for toilet compartments designated as accessible.

2.2 STAINLESS STEEL TOILET COMPARTMENTS A600 SERIES SHEETS

A. Match existing manufacturer and style.

B. Toilet-Enclosure Style: Floor anchored.

C. Entrance-Screen Style: Floor anchored.

D. Urinal-Screen Style: Wall hung flat panel.

E. Door, Panel, and Pilaster Construction: Seamless, metal facing sheets pressure laminated to core material; with continuous, interlocking molding strip or lapped-and-formed edge closures; corners secured by welding or clips and exposed welds ground smooth. Provide with no-sightline system consisting of a full-height continuous stop on latch side of door and full-height continuous filler strip on hinge side of door (unless continuous hinge is used). Exposed surfaces shall be free of pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections.

1. Core Material: Manufacturer's standard sound-deadening honeycomb of resin-impregnated kraft paper in thickness required to provide finished thickness of 1 inch (25 mm) for doors and panels and 1-1/4 inches (32 mm) for pilasters.
2. Grab-Bar Reinforcement: Provide concealed internal reinforcement for grab bars mounted on units of size and material adequate for panel to withstand specified structural performance requirements.
3. Tapping Reinforcement: Provide concealed reinforcement for tapping (threading) at locations where machine screws are used for attaching items to units.

F. Entrance-Screen Construction: Matching panel construction.

G. Urinal-Screen Construction:

1. Flat-Panel Urinal Screen: Matching panel construction.

H. Facing Sheets and Closures: Stainless steel sheet of nominal thicknesses as follows:
1. Panels: Manufacturer's standard thickness, but not less than 0.031 inch
2. Doors: Manufacturer's standard thickness, but not less than 0.031 inch (0.79 mm).
3. Entrance Screens: Thickness matching panels.
4. Flat-Panel Urinal Screens: Thickness matching panels.

I. Brackets (Fittings):
1. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.

2.3 HARDWARE AND ACCESSORIES

A. Door Hardware and Accessories: Manufacturer's operating hardware and accessories.

1. Hinges:

a. Manufacturer's standard hinge.

2. Door Bumper: Manufacturer's rubber-tipped bumper at outswinging doors.

a. Material: Manufacturer's standard.

3. Door Pull: Manufacturer's unit at outswinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at toilet enclosures designated as accessible.

    a. Material: Stainless Steel

B. Door Hardware and Accessories, Heavy Duty: Manufacturer's heavy-duty institutional operating hardware and accessories.

1. Hinges: Manufacturer's minimum 0.062-inch- (1.59-mm-) thick, stainless allowing emergency access by lifting door. Mount with through bolts.
2. Latch and Keeper: Manufacturer's heavy-duty, surface-mounted, cast stainless steel latch unit designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at toilet enclosures designated as accessible. Mount with through bolts.
3. Coat Hook: Manufacturer's heavy-duty, combination cast stainless steel hook and rubber-tipped bumper, sized to prevent inswinging door from hitting compartment-mounted accessories. Mount with through bolts.
4. Door Bumper: Manufacturer's heavy-duty, rubber-tipped, cast stainless steel bumper at outswinging doors. Mount with through bolts.
5. Door Pull: Manufacturer's heavy-duty, cast stainless steel pull at outswinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at toilet enclosures designated as accessible. Mount with through bolts.

C. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel anchors compatible with related materials.

2.4 MATERIALS

A. Aluminum Castings: ASTM B26/B26M.

B. Aluminum Extrusions: ASTM B221 (ASTM B221M).

2.5 FABRICATION

A. Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories and solid blocking within panel where required for attachment of toilet accessories.

B. Floor-Anchored Units: Manufacturer's standard corrosion-resistant anchoring assemblies at pilasters and walls, with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

C. Ceiling-Hung Units: Manufacturer's standard corrosion-resistant anchoring assemblies at pilasters and walls, with leveling adjustment nuts at pilasters for connection to structural support above finished ceiling. Provide assemblies that support pilasters from structure without transmitting load to finished ceiling. Provide sleeves (caps) at tops of pilasters to conceal anchorage.

D. Floor-and-Ceiling-Anchored Units: Manufacturer's standard corrosion-resistant anchoring assemblies at pilasters and walls, with leveling adjustment nuts at tops and bottoms of pilasters. Provide shoes and sleeves (caps) at pilasters to conceal anchorage.

E. Urinal-Screen Posts: Manufacturer's standard corrosion-resistant anchoring assemblies at posts and walls, with leveling adjustment nuts a tops and bottoms of posts. Provide shoe and sleeves (caps) at posts to conceal anchorage.

EXECUTION

2.6 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.

1. Confirm location and adequacy of blocking and supports required for installation.

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

2.7 INSTALLATION

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

1. Maximum Clearances:

a. Pilasters and Panels or Screens: 1/2 inch (13 mm).
b. Panels or Screens and Walls: 1 inch (25 mm).

c. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
d. Align brackets at pilasters with brackets at walls.

2. Full-Height (Continuous) Brackets: Secure panels or screens to walls and to pilasters with full-height brackets.

a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
b. Align brackets at pilasters with brackets at walls.

B. Floor-Anchored Units: Set pilasters with anchors penetrating not less than 2 inches (51 mm) into structural floor unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.

C. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

2.8 ADJUSTING

A. Hardware Adjustment: Adjust and lubricate hardware in accordance with hardware manufacturer's written instructions for proper operation. Set hinges on inswinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on outswinging doors to return doors to fully closed position.

END OF DOCUMENT 10 21 13.17

DOCUMENT 10 28 00 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Public-use washroom accessories.
2. Public-use shower room accessories.
3. Private-use bathroom accessories.
4. Healthcare accessories.
5. Childcare accessories.
6. Underlavatory guards.
7. Custodial accessories.
8. Hand-sanitizer dispensers.

1.2 ACTION SUBMITTALS

A. Product data.

B. Samples: For each exposed product and for each finish specified, full size.

C. Delegated Design Submittals: For grab bars.

1. Include structural design calculations indicating compliance with specified structural-performance requirements.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranties.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 WARRANTY

A. Manufacturer's Special Warranty for Mirrors: Manufacturer agrees to repair or replace mirrors that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Per Manufacturer years from date of Substantial Completion for materials, and two year Contractor Warranty for installation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Structural Performance: Design accessories and fasteners to comply with the following requirements:

1. Grab Bars: Installed units are able to resist 250 lbf concentrated load applied in any direction and at any point.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

A. Toilet Tissue (Roll) Dispenser By Owner

B. Waste Receptacle A600 Series Drawings
1. Mounting: Undercounter
2. Minimum Capacity: 13 gallon
3. Material and Finish: Stainless Steel

C. Countertop-Mounted Circular Waste Chute
1. OD: 6”
2. Material and Finish: Stainless Steel

D. Warm-Air Hand Dryer : Dyson Air Blade
1. Power Requirements
   a. Voltage: 100-240 V
   b. Frequency: 50/60 Hz
   c. Power consumption: 1400 W (max)
2. Air Speed
3. Air speed at apertures: 430 mph (693 km/h)
4. Air Temperature
5. Maximum air temperature: 105°F (40.6°C)

E. Soap Dispenser By Owner

F. Grab Bar A600 Series Drawings / G300
1. Mounting: Flanges with concealed fasteners.
2. Material: Stainless steel, 0.05 inch thick.

   a. Finish: Smooth, ASTM A480/A480M No. 4 finish Retain first option in "OD" Subparagraph below for medium-duty applications; second, for heavy duty.

3. OD: 1-1/2 inches.
4. Configuration and Length: As indicated on Drawings

G. Mirror Unit A600 Drawings - -See drawings for Dimensions
1. Bezel Material: Stainless Steel
2. Bezel Dimensions:

a. Width: 1/2"
b. Thickness: 20 gauge

3. Mirror Features:
   a. Glass Type: 1/4" tempered glass with a silver backing provides additional strength and safety for the mirror.
   b. Mirror Backing: BOD: Pilkington Mirropane Chrome, which is a high-quality mirror backing that provides excellent durability and moisture resistance.

H. Coat Hooks: provide coat hooks per the Stainless Steel Toilet Partitions mfgr.

2.3 UNDERLAVATORY GUARDS

A. Underlavatory Guard A600 Series Drawings:
   1. Description: Insulating pipe covering for supply and drain piping assemblies that prevents direct contact with and burns from piping; allow service access without removing coverings.
   2. Material and Finish: Antimicrobial, molded plastic, white.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories in accordance with manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

   1. Remove temporary labels and protective coatings.

B. Grab Bars: Install to comply with specified structural-performance requirements.

C. Soap Dispensers to be Adhered to Mirror

D. Warm Air Hand Dryer

   1. Installation
      a. Requires a dedicated 20-amp circuit
      b. Can be wall-mounted with included bracket or installed with optional pedestal stand (sold separately)
      c. Must be installed at least 15 in (380 mm) from any vertical obstruction

   2. Maintenance
      a. HEPA filter requires replacement every 6 months or after 450 uses, whichever comes first
      b. Dryer should be cleaned regularly with a soft, damp cloth
      c. Do not use harsh or abrasive cleaners on any part of the dryer
      d. Do not attempt to open or service the dryer unless you are a qualified technician

E. Mirror
   1. Installation:

a. Mounting: Concealed mounting brackets or heavy-duty adhesive are typically used for low profile mirrors. Please specify if there are any specific requirements for the mounting.
b. Hardware: If using concealed mounting brackets, screws and anchors will be required.

END OF DOCUMENT 10 28 00

SECTION 10 51 16 - WOOD LOCKERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes wood-faced wood lockers.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For wood lockers.

1. Include plans, elevations, sections, and attachment details.
2. Show locker identification system and numbering sequence.

C. Samples: For each exposed product and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install wood lockers until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature at operating levels during the remainder of the construction period.

1.6 WARRANTY

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

1. Warranty Period: Materials and Workmanship for twenty (20) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: For lockers indicated to be accessible, comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design".

2.2 WOOD-FACED WOOD LOCKERS

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

1. All Wood Lockers
   All Wood Lockers
   By Groovfold Fabricators
   1050 West State Street
   Newcomerstown, Ohio 43832
   info@allwoodlockers.com
   Toll Free: 800.367.1133
   Local: 740.561.0326
   Fax: 740.498.8782

B. Construction Style: Open Locker Style – 24” Wide

1. Finish Style: Hardrock Maple

C. End Panels: Match style, material, construction, and finish of wood-faced wood doors as provided by locker manufacturer. Size and geometry shall be provided in shop drawings.

D. Seat Cushions: Provide Seat Cushions for all lockers with this logo:

1.

2.3 FABRICATION

A. Fabricate lockers square, rigid, without warp, and with finished faces flat and free of dents, scratches, and chips. Accurately factory machine components for attachments. Make joints tight and true.

B. Accessible Lockers: Fabricate as follows:
1. Provide one accessible locker per locker room.
2. Construction Style: Open ADA Locker Style – 24” Wide

a. Finish Style: Hardrock Maple
b. Provide matching bar stool.

C. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible, before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

D. Shop cut openings, to maximum extent possible, to receive hardware, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install lockers level, plumb, and true; use concealed shims.

B. Connect groups of lockers together with manufacturer's standard fasteners, through predrilled holes, with no exposed fasteners on face frames. Fit lockers accurately together to form flush, tight, hairline joints.

C. Install lockers without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings, providing unencumbered operation. Complete installation of hardware and accessory items as indicated.

1. Installation Tolerance: No more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line. Shim as required with concealed shims.

D. Locker Anchorage: Fasten lockers through back, near top and bottom, at ends with No. 8 flush-head wood screws sized for 1-inch penetration into wood framing, blocking, or furring and spaced not more than 16 inches o.c.

E. Scribe and cut corner and filler panels to fit adjoining work using fasteners concealed where practical. Repair damaged finish at cuts.

F. Attach sloping-top units to lockers, with end panels covering exposed ends.

G. Install number identification plates after lockers are in place.

H. Provide protective mat at each shoe shelf.

I. Movable Locker Benches: Place benches in locations indicated on Drawings.

J. Electrical Connections: Conceal conductors and cables.

END OF DOCUMENT 10 51 16

SECTION 12 36 61.16 - SOLID SURFACING COUNTERTOPS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid surface material countertops.
2. Solid surface material backsplashes.
3. Solid surface material end splashes.
4. Solid surface material apron fronts.
5. Solid surface material sinks.

1.2 ACTION SUBMITTALS

A. Product Data: For countertop materials and sinks.

B. Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures.

C. Samples: For each type of material exposed to view.

PART 2 - PRODUCTS

2.1 SOLID SURFACE COUNTERTOP MATERIALS

A. Solid Surface Material: Homogeneous-filled plastic resin complying with ISFA 2-01.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Wilsonart LLC.
2. Integral Sink Bowls: Comply with CSA B45.5/IAPMO Z124.
3. Colors and Patterns:
   a. SS-01 Basis of Design: Black Onyx mirage 9092MG
   b. SS-02 Basis of Design: Milk Glass Spectra (matte finish)
4. Plywood: Exterior softwood plywood complying with DOC PS 1, Grade C-C Plugged, touch sanded.

2.2 FABRICATION

A. Fabricate countertops according to solid surface material manufacturer's written instructions and to the AWI/AWMAC/WI's "Architectural Woodwork Standards."

1. Grade: Custom

B. Configuration:

1. Front: Straight, slightly eased at top
2. Backsplash: Straight, slightly eased at corner
3. End Splash: None.

C. Countertops:

1. 1/2-inch- thick, solid surface material with front edge built up with same material.

D. Backsplashes: 1/2-inch thick, solid surface material.

E. Joints:

1. Fabricate countertops in sections for joining in field, with joints at locations indicated.

F. Cutouts and Holes:

1. Undercounter Plumbing Fixtures: Make cutouts for fixtures in shop using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.

2.3 INSTALLATION MATERIALS

A. Adhesive: Product recommended by solid surface material manufacturer.

B. Sealant for Countertops: Comply with applicable requirements in Section 079200 "Joint Sealants."

PART 3 - EXECUTION

3.1 INSTALLATION

A. Fasten subtops to cabinets by screwing through subtops into cornerblocks of base cabinets. Shim as needed to align subtops in a level plane.

B. Secure countertops to subtops with adhesive according to solid surface material manufacturer's written instructions.

C. Bond joints with adhesive and draw tight as countertops are set. Mask areas of countertops adjacent to joints to prevent adhesive smears.

D. Install backsplashes by adhering to wall and countertops with adhesive.

E. Install aprons to backing and countertops with adhesive.

F. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.

G. Apply sealant to gaps at walls; comply with Section 07 92 00 "Joint Sealants."

END OF DOCUMENT 12 36 61.16

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EPA Lab ID #DE004

NVLAP Lab Code: 101032-0

Dept. Code: PLM

Rev. #: 0
Batch#: N/A
COC#: N/A

CERTIFICATE OF PLM ANALYSIS

Test Method: EPA/600/R-93/116 in conjunction with Batta SOP

Report Date: 02/14/23

Sampling Data

Date Sampled: 02/03/23
BLI Project #: R101815
Sampled By: CLIENT
Project Name: COURTICE GRASON-OH-2-FIELD HOUSE - LAKE LAND COLLEGE-5001 LLB
Date Analyzed: 02/14/23

Sample ID		Client-supplied Data			Analytical Data		Reported Results	
Lab Sample#	Client Sample#	Sample Description	Material Type	Friable?	Texture/ Gross	Color	Non-asbestiform Components	Asbestiform Components
1360134	01	n/a	Plaster Skim Coat	n/a	Firm Homogeneous	White	100% Non-fibrous Material	No Asbestos Found
1360135	01 LAYER	n/a	Plaster Base Coat	n/a	Firm Homogeneous	Gray	100% Non-fibrous Material	No Asbestos Found
1360136	02	n/a	Ceramic Tile	n/a	Firm Homogeneous	Gray	100% Non-fibrous Material	No Asbestos Found
1360137	03	n/a	Ceramic Tile	n/a	Firm Homogeneous	White	100% Non-fibrous Material	No Asbestos Found
1360138	04	n/a	Motar	n/a	Firm Homogeneous	Gray	100% Non-fibrous Material	No Asbestos Found

Note 1 *Due to limitations of the EPA PLM method, floor tiles may yield false negative (<1%) results by this method. As such, the EPA recommends further analysis by electron microscopy. Batta recommends the NY 198.4 over the Chatfield method.*

Note 2 Unless otherwise specified, Tr=Trace and correlates to <0.25% (based on a 400-point EPA point count).

Note 3 Materials containing vermiculite are not good candidates for analysis using standard EPA 600 PLM protocol. Results may be low-biased due to inherent limitations caused by the material. The EPA recommends that vermiculite attic insulation (VAI) be prepped and analyzed using EPA 600/R-04/004, known as "The Cincinnati Method".

ANALYST: JJF

REVIEWED BY: ARL

QA/QC Officer/Signatory

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EPA Lab ID #DE004

NVLAP Lab Code: 101032-0

Dept. Code: PLM

Rev. #: 0
Batch#: N/A
COC#: N/A

CERTIFICATE OF PLM ANALYSIS

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BLI Project #: R101815
Sampled By: CLIENT
Project Name: COURTICE GRASON-OH-2-FIELD HOUSE - LAKE LAND COLLEGE-5001 LLB
Date Analyzed: 02/14/23

Sample ID		Client-supplied Data			Analytical Data		Reported Results	
Lab Sample#	Client Sample#	Sample Description	Material Type	Friable?	Texture/ Gross	Color	Non-asbestiform Components	Asbestiform Components
1360139	05	n/a	Ceramic Tile	n/a	Firm Homogeneous	White	100% Non-fibrous Material	No Asbestos Found
1360140	06	n/a	Floor Covering	n/a	Firm Homogeneous	Various	100% Non-fibrous Material	No Asbestos Found
1360142	07	n/a	Floor Covering	n/a	Firm Homogeneous	Various	100% Non-fibrous Material	No Asbestos Found
1360144	08	n/a	ACT	n/a	Fibrous Homogeneous	Gray	95% Mineral Wool 5% Non-fibrous Material	No Asbestos Found
1360145	09	n/a	ACT	n/a	Fibrous Homogeneous	Gray	95% Mineral Wool 5% Non-fibrous Material	No Asbestos Found

Note 1 *Due to limitations of the EPA PLM method, floor tiles may yield false negative (<1%) results by this method. As such, the EPA recommends further analysis by electron microscopy. Batta recommends the NY 198.4 over the Chatfield method.*

Note 2 Unless otherwise specified, Tr=Trace and correlates to <0.25% (based on a 400-point EPA point count).

Note 3 Materials containing vermiculite are not good candidates for analysis using standard EPA 600 PLM protocol. Results may be low-biased due to inherent limitations caused by the material. The EPA recommends that vermiculite attic insulation (VAI) be prepped and analyzed using EPA 600/R-04/004, known as "The Cincinnati Method".

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REVIEWED BY: ARL

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*This report does not constitute endorsement by NVLAP and/or any other US government agencies.

*The test data pertain only to the items tested. No assumptions or conclusions should be made to materials or samples not analyzed. Furthermore, Batta Laboratories, LLC assumes no responsibility for the accuracy of results influenced by the use of improper collection techniques or equipment.

*Organically-bound, nonfriable material may interfere with the accurate and reproducible quantification of asbestos. In these cases, the EPA recommends further analysis by a matrix-reduction method. Batta recommends the NY ELAP Item 198.6/198.4 over the Chatfield method. When point count techniques are utilized on organically-bound, nonfriable materials without the EPA-recommended matrix reduction steps, Batta Laboratories assumes no responsibility regarding the accuracy or precision associated with these results. In these cases, Batta employs a modified version of the EPA point count method.

*WRTA refers to a group of fibrous Amphiboles typically associated with 'Libby Amphibole'. Within this classification are: winchite, richterite, tremolite, and actinolite.

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EPA Lab ID #DE004

NVLAP Lab Code: 101032-0

Dept. Code: PLM

Rev. #: 0
Batch#: N/A
COC#: N/A

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Project Name: COURTICE GRASON-OH-2-FIELD HOUSE - LAKE LAND COLLEGE-5001 LLB
Date Analyzed: 02/14/23

Sample ID		Client-supplied Data			Analytical Data			Reported Results	
Lab Sample#	Client Sample#	Sample Description	Material Type	Friable?	Texture/	Gross	Color	Non-asbestiform Components	Asbestiform Components
1360146	10	n/a	Plaster	n/a	Firm Homogeneous		White	100% Non-fibrous Material	No Asbestos Found
1360148	11	n/a	Carpet Mastic	n/a	Soft Homogeneous		Green	100% Non-fibrous Material	No Asbestos Found
1360149	12	n/a	Covebase	n/a	Firm Homogeneous		Black	100% Non-fibrous Material	No Asbestos Found
1360150	13	n/a	Base Glue	n/a	Soft Homogeneous		Tan	100% Non-fibrous Material	No Asbestos Found

Note 1 *Due to limitations of the EPA PLM method, floor tiles may yield false negative (<1%) results by this method. As such, the EPA recommends further analysis by electron microscopy. Batta recommends the NY 198.4 over the Chatfield method.*

Note 2 Unless otherwise specified, Tr=Trace and correlates to <0.25% (based on a 400-point EPA point count).

Note 3 Materials containing vermiculite are not good candidates for analysis using standard EPA 600 PLM protocol. Results may be low-biased due to inherent limitations caused by the material. The EPA recommends that vermiculite attic insulation (VAI) be prepped and analyzed using EPA 600/R-04/004, known as "The Cincinnati Method".

ANALYST: JJF

REVIEWED BY: ARL

QA/QC Officer/Signatory

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R101815

CHAIN OF CUSTODY

1. CLIENT: LAKE LAND College		2. PROJECT NO.: 014-2	
3. REF. NO: NESHAP	4. CONTACT: SCOTT R.	5. SAMPLING DATE: 3 FEB 23	
6. ADDRESS: LAKE LAND College ; 5001 LB		7. STATE: IL	8. ZIP: 61950
9. PROJECT NAME: FIELD HOUSE		10. LOCATION: MATTOON	
11. PROJECT MANAGER: Courtice Bowman		12. LICENSE #: 100-04103	

13. Special Instructions: PLEASE EMAIL RESULTS

14. Sample Matrix: [ ] Air [X] Bulk [ ] Micro-Vac [ ] Soil [ ] Wipe [ ] Water

15. Analysis Method

[ ] PCM: NIOSH 7400 (A) Issue 2:1994	[X] PLM: Bulk Asbestos EPA 600/R-93/	[ ] TEM: Bulk Drop Mount
[ ] PCM: OSHA	[ ] PLM: EPA Point Count	[ ] TEM: Bulk Chatfield SOP/1988-02/
[ ] PCM: Other_____	[ ] PLM: NYS Stratified Point Count	[ ] TEM: Bulk NOB (gravimetric) 198.4
	[ ] PLM: NOB (gravimetric) NYS 198.1	
[ ] TEM: AHERA 40 CFR, Part 763 (E)	[ ] PLM: NIOSH 9002	[ ] TEM: Water EPA 100.1
[ ] TEM: NIOSH 7402 Issue 2	[ ] If < 1% by PLM, to TEM via 198.4	[ ] TEM: Water EPA 100.2
[ ] TEM: EPA Level II		[ ] TEM: Water NYS 198.2
[ ] Other_____	[ ] PLM: Soil EPA Qualitative	[ ] TEM: Microvac Dust ASTM D 5755
	[ ] PLM: Soil EPA Quantitative	[ ] TEM: Wipe Qualitative

16. Sample # (s) /Homogeneous Areas	Description	Laboratory Sample # (s)
1360		
134-135 01, PLASTER	142-143 07, Floor Covering	150 13, BASE GLUE
136 02, CERAMIC TILE	144 08, ACT	
137 03, CERAMIC TILE	145 09, ACT	
138 04, MORTOR	146-147 10, PLASTER	
139 05, CERAMIC TILE	148 11, CARPET MASTIC	
140-141 06, Floor Covering	149 12, BASE	
	Total Samples: (13)	Attachment (s): NONE

17. Turn Around Time: [X] 5 Day [ ] 3 Day [ ] 2 Day [ ] Next Day [ ] Rush / Same Day

18. Chain of Custody Signatures:

Relinquished:	CF013	Date: 3 FEB 23	Time: 4:00 PM
Received By:		Date:	Time:
Analyzed:		Date:	Time:
QA/QC Review:		Date:	Time:

19. Discrepancy Indication Space: _____

20. Client Notification: VIA FAX_____ Date / Time VERBAL_____ Date / Time Initials:_____

☐ *Samples received in acceptable condition for analysis* ☐ *Supplemental report attached documenting specific deficiencies*

Irene Adebiyi

From: Ray Sankey
Sent: Tuesday, February 7, 2023 12:38 PM
To: Irene Adebiyi; Courtice Bowman (courtice@courticegrason.com)
Cc: Angela Lewis; Madell Collins; Jason Shatney; Kathryn Reeves; Brittany Sammons
Subject: RE: CORTICE GRASON- MISSING TAT

Hi all...I spoke with client....5 day TAT for Field house...the other samples are marked for RUSH TAT for Woodrow Wilson for today...thx

Ray Sankey
Sales Manager

Batta Laboratories, LLC.
Consulting | Laboratories | Products | Training
(O) 855.862.2882 x107 | **(F)** 302.757.5764 | **(C)** 302.757.0702 | RayS@battaenv.com

From: Irene Adebiyi
Sent: Tuesday, February 07, 2023 12:09 PM
To: Courtice Bowman (courtice@courticegrason.com) <Courtice@courticegrason.com>
Cc: Angela Lewis <AngelaLewis@battaenv.com>; Madell Collins <MadellC@battaenv.com>; Jason Shatney <jasons@battaenv.com>; Kathryn Reeves <Kathryn.Reeves@battaenv.com>; Brittany Sammons <brittanys@battaenv.com>; Ray Sankey <Rays@battaenv.com>
Subject: CORTICE GRASON- MISSING TAT

Good afternoon,
We just received some samples for project OH-2 Field House; however, this project does not have a TAT marked on the COC. When would you like your results? Please, let us know at your earliest convenience.

Irene Adebiyi
Accessioning Department

BATTA Laboratories, LLC.
Consulting | Laboratories | Products | Training
(O) 302.737.3376 x 123 | Irene.Adebiyi@battaenv.com

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