NEWCOMER ASSOCIATES

architecture + engineering

PROJECT MANUAL FOR:

King Street Church
Office Building Renovation
Chambersburg, Pennsylvania

January 29, 2016

Volume 1 of 2
Divisions 1 thru 14

1105 Sheller Avenue Chambersburg, PA 17201
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DOCUMENT 00 01 10

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DIVISION 32 - EXTERIOR IMPROVEMENTS
Not Used

DIVISION 33 – UTILITIES
Not Used

END OF SECTION

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INVITATION TO BID

Project:	King Street Church Office Building Renovation Chambersburg, PA 17201
Owner:	King Street Church 162 East King Street Chambersburg, PA 17201
Architect:	Newcomer Associates 1105 Sheller Avenue Chambersburg, PA 17201 Phone: (717) 263-0101 Fax: (717) 263-7380
Date:	March 7, 2016 Drawings and Specifications available on FTP site
Scope:	A partial demolition and renovation of a single story office building. Consisting of removal and replacement of roof membrane, all new interior finishes, exterior walls shall be refinished with EIFS and Brick, new doors, flooring, walls, and ceiling. New plumbing, mechanical and electrical.
Bid Due Date:	March 29, 2016 @12:00 Noon
Bid Location:	E-mailed Bids are acceptable with original delivery to Ken Adams at King Street Church. Email to: kadams@kschurch.org

Bids will be opened privately.

Bidding Documents will be available on Newcomer Associates FTP site. Questions during bidding should be directed to Tony Foreman, Newcomer Associates Construction Administrator, who can be contacted by Email at: tforeman@newcomerassociates.com

Submit your Bid on the Bid Form provided.

Your Bid will be required to be submitted under a condition of irrevocability for a period of 90 days after submission.

The Owner reserves the right to waive irregularities and to reject bids and award the contract in any manner deemed in the Owner's best interest.

END OF DOCUMENT

AIA® Document A701™ – 1997

Instructions to Bidders

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

THE OWNER:
(Name and address):

THE ARCHITECT:
(Name and address):

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.

TABLE OF ARTICLES

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 other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and all Addenda issued prior to execution of the Contract.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, or in other Contract Documents are applicable to the Bidding Documents.

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

§ 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 as the base, to which Work may be added or from which Work may be deleted for 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 the amount of 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 The Bidder by making a Bid represents that:

§ 2.1.1 The Bidder has read and understands the Bidding Documents or Contract Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.

§ 2.1.2 The Bid is made in compliance with the Bidding Documents.

§ 2.1.3 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 personal observations with the requirements of the proposed Contract Documents.

§ 2.1.4 The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 COPIES

§ 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement or Invitation to Bid in the number and for the deposit sum, if any, stated therein. The deposit will be refunded to Bidders who submit a bona fide Bid and return the Bidding Documents in good condition within ten days after receipt of Bids. The cost of replacement of missing or damaged documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the Bidding Documents and the Bidder's deposit will be refunded.

§ 3.1.2 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.

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

§ 3.1.4 The Owner and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

§ 3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

§ 3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall at once report to the Architect errors, inconsistencies or ambiguities discovered.

§ 3.2.2 Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect at least seven days prior to the date for receipt of Bids.

§ 3.2.3 Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will 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 No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. 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.

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

§ 3.3.4 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 all who are known by the issuing office to have received a complete set of Bidding Documents.

§ 3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

§ 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 Each Bidder shall ascertain prior to submitting a Bid 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 the Bidding Documents.

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

§ 4.1.3 Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.

§ 4.1.4 Interlineations, alterations and erasures 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."

§ 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 make no 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 of the Bidder and the nature of legal form of the Bidder. The Bidder shall provide evidence of legal authority to perform within the jurisdiction of the Work. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give 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.

§ 4.2 BID SECURITY

§ 4.2.1 Each Bid shall be accompanied by a bid security in the form and amount required if so stipulated in the Instructions to Bidders. The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, 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. The amount of the bid security shall not be forfeited to the Owner in the event the Owner fails to comply with Section 6.2.

§ 4.2.2 If a surety bond is required, it shall be written on AIA Document A310, Bid Bond, unless otherwise provided in the Bidding Documents, and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney.

§ 4.2.3 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected.

§ 4.3 SUBMISSION OF BIDS

§ 4.3.1 All copies of the Bid, the bid security, if any, 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.

§ 4.3.2 Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.

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

§ 4.3.4 Oral, telephonic, telegraphic, facsimile or other electronically transmitted bids will not be considered.

§ 4.4 MODIFICATION OR WITHDRAWAL OF BID

§ 4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid.

§ 4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the

signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date- and time-stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be so worded as not to reveal the amount of the original Bid.

§ 4.4.3 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

§ 4.4.4 Bid security, if required, shall be in an amount sufficient for the Bid as resubmitted.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 OPENING OF BIDS

At the discretion of the Owner, if stipulated in the Advertisement or Invitation to Bid, the properly identified Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids may be made available to Bidders.

§ 5.2 REJECTION OF BIDS

The Owner shall have the right to reject any or all Bids. A Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

§ 5.3 ACCEPTANCE OF BID (AWARD)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. 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 own best interests.

§ 5.3.2 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 low 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, a properly executed AIA Document A305, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted as a prerequisite to the issuance of Bidding Documents.

§ 6.2 OWNER'S FINANCIAL CAPABILITY

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

§ 6.3 SUBMITTALS

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

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

.2 names of the manufacturers, products, and the suppliers of principal items or systems of materials and equipment proposed for the Work; 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 in writing 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, (1)

withdraw the Bid or (2) submit an acceptable substitute person or entity with an adjustment in the Base Bid or Alternate Bid to cover 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. Bonds may be secured through the Bidder's usual sources.

§ 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 If the Owner requires that bonds be secured from other than the Bidder's usual sources, changes in cost will be adjusted as provided in the Contract Documents.

§ 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 be commenced prior thereto 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. Both bonds shall be written in the amount of the Contract Sum.

§ 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 thereto a certified and current copy of the power of attorney.

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulated Sum.

DOCUMENT 00 41 13

BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

To: King Street Church
Attn: Ken Adams
162 East King Street
Chambersburg, PA 17201

Project: King Street Church
Office Building Renovation
Chambersburg, PA 17201

Date: .....

Submitted by: .....

.....

.....

1.1 OFFER

Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Newcomer Associates 1105 Sheller Avenue, Chambersburg, PA 17201 for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:

$.....dollars, in lawful money of the United States of America.

Time to complete the work 211 calendar days.

The furnishing of any and all labor and materials to do all of the work required to construct and complete said work in accordance with the Contract Documents are included in the Bid Sum.

Along with the Bid provide a list of all proposed Sub-Contractors, Reference Breakdown Form - 4.

The King Street Church has requested that Bids be taken from but not limited to the following Companies for consideration:

Electrical: Glen Meyers Electric and Leshers Electric
HVAC: Rodney B Smith
Plumbing: Rodney B. Smith, MC Plum.

1.2 ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for ninety days from the bid closing date.

If this bid is accepted by the Owner within the time period stated above, we will:

- Prepare the Contract
- Execute the Agreement within seven days of receipt of acceptance of this bid.
- Commence work upon, but not before written Notice to Proceed.

1.3 CHANGES TO THE WORK

When the Architect establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee shall be:

..... percent overhead and profit on the net cost of the General Contractors Work;

..... percent overhead and profit from the General Contractor on the gross cost of work done by any Subcontractor.

..... percent overhead and profit on the net cost of any Subcontractors work.

On work deleted from the Contract, our credit to the Owner shall be the Architect approved net cost plus ..... percent overhead and profit.

1.4 ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Price.

Addendum # ..... Dated .....

Addendum # ..... Dated .....

Addendum # ..... Dated .....

1.5 ALTERNATES

Add Alternate No. 1: Add wood board wall to conference room 146, Corridor 103, 127 corridor into 128 vestibule. $_____

Add Alternate No. 2: Add Vinyl wall covering in lieu of paint where noted on Finish Schedule. $_____

1.6 BID FORM SIGNATURES

The Corporate Seal of

.....
(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

.....
(Authorized signing officer Title)

(Seal)

.....
(Authorized signing officer Title)

(Seal)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

SUB CONTRACTORS LIST

DIVISIONS	SUBCONTRACTORS (Name, Address, Phone)	BID TOTAL OF EACH DIVISION
Division 1 - General Conditions	_____ _____ _____	$_____
Division 2 - Site Construction	_____ _____ _____	$_____
Division 3 - Concrete	_____ _____ _____	$_____
Division 4 - Masonry	_____ _____ _____	$_____
Division 5 - Metals	_____ _____ _____	$_____
Division 6 - Wood and Plastics	_____ _____ _____	$_____
Division 7 - Thermal and Moisture Protection	_____ _____	$_____
Division 8 - Doors and Windows	_____ _____ _____	$_____
Division 9 - Finishes	_____ _____ _____	$_____
Division 10 - Specialties	_____ _____ _____	$_____
Division 11 - Equipment	_____ _____ _____	$_____

Division 12 - Furnishings	_____	_____	_____	$_____
Division 13 - Special Construction	_____	_____	_____	$_____
Division 15 - Mechanical	_____	_____	_____	$_____
Division 16 - Electrical	_____	_____	_____	$_____
TOTAL BID PRICE				$_____

Please attach separate pages as necessary.

END OF SECTION

AIA® Document A101™ – 2007

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

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

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

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

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

The Architect:
(Name, address and other information)

The Owner and Contractor agree as follows.

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

AIA Document A201™–2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.
(Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows:

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

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than ( ) days from the date of commencement, or as follows:
(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

Portion of Work	Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.
(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

ARTICLE 4 CONTRACT SUM

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

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:
(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

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

Item	Units and Limitations	Price Per Unit

§ 4.4 Allowances included in the Contract Sum, if any:
(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

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

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

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the day of the same month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than ( ) days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

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

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

§ 5.1.6 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

.1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of ( ). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2007, General Conditions of the Contract for Construction;

.2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of ( );

.3 Subtract the aggregate of previous payments made by the Owner; and

.4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2007.

§ 5.1.7 The progress payment amount determined in accordance with Section 5.1.6 shall be further modified under the following circumstances:

.1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
(Section 9.8.5 of AIA Document A201–2007 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)

.2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2007.

§ 5.1.8 Reduction or limitation of retainage, if any, shall be as follows:
(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

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

§ 5.2 FINAL PAYMENT

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

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201–2007, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

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

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 INITIAL DECISION MAKER

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201–2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 BINDING DISPUTE RESOLUTION

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A201–2007, the method of binding dispute resolution shall be as follows:
(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)

[ ] Arbitration pursuant to Section 15.4 of AIA Document A201–2007

[ ] Litigation in a court of competent jurisdiction

[ ] Other *(Specify)*

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2007.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

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

§ 8.3 The Owner's representative:
(Name, address and other information)

§ 8.4 The Contractor's representative:
(Name, address and other information)

§ 8.5 Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

§ 8.6 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A101–2007, Standard Form of Agreement Between Owner and Contractor.

§ 9.1.2 The General Conditions are AIA Document A201–2007, General Conditions of the Contract for Construction.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 9.1.4 The Specifications:
(Either list the Specifications here or refer to an exhibit attached to this Agreement.)
Title of Specifications exhibit:

Section	Title	Date	Pages

§ 9.1.5 The Drawings:
(Either list the Drawings here or refer to an exhibit attached to this Agreement.)
Title of Drawings exhibit:

Number	Title	Date

§ 9.1.6 The Addenda, if any:

Number	Date	Pages

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

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 AIA Document E201™–2007, Digital Data Protocol Exhibit, if completed by the parties, or the following:

.2 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201–2007 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201–2007.
(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201–2007.)

Type of insurance or bond	Limit of liability or bond amount ($ 0.00)

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

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
(Printed name and title)	*(Printed name and title)*

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

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

THE OWNER:
(Name and address)

THE ARCHITECT:
(Name and address)

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

TABLE OF ARTICLES

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding 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~~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 and certify termination of the Agreement under Section 14.2.2.

§ 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.

§ 1.2.2 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 will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment 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 this 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 material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them 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 material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

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 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the

portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 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.

§ 2.2.3 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.

§ 2.2.4 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.

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

§ 2.3 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.

§ 2.4 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 written 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 deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor 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. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

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 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 2.2.3, 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 make 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 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, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and 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 written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

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

§ 3.3.3 The Contractor shall be responsible for inspection of portions of 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 authorized by the Architect in accordance with Sections 3.12.8 or 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

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.

§ 3.6 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 21 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 an equitable adjustment 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 in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed 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 furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply 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 SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be 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, 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 maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be 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 the way by which 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 requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing 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 written 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. 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 cause such services or certifications to be provided by a properly 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, accuracy and

completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, 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. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 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, and 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 and patching shall be restored to the condition existing prior to the cutting, fitting and 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 such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's 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 or 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 Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect 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 such 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 the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

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

§ 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 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.

§ 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.

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

§ 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, except as provided in Section 3.3.1.

§ 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 report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) 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 FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 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 13.5.2 and 13.5.3, whether or not such 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, material and equipment 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, unless otherwise specifically stated by the Architect, 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 authorize 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 duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 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 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 or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply 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 previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, 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, which the Contractor, by these 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 in writing; 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 such 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 Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 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 other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the 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, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor 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 report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report 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, except as to defects not then reasonably discoverable.

§ 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 the Contractor wrongfully causes to completed or partially completed construction or to property of the ~~Owner or~~ Owner, separate contractors 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, and the Contractor shall proceed promptly, 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 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

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

§ 7.3.6 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.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount

for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

.1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;

.2 Costs of materials, 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 related to the Work; and

.5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 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 has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

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, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 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 an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order 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

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.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's 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. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material 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 material 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, material suppliers, or other persons or entities making a claim by reason of having 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 issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part 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 comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. 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. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. 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 material 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 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 the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 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 material or equipment suppliers 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 Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, 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 material and equipment 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 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, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment 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 and 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, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 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' written 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 shut-down, 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, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall 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 such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such 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 as required under Section 11.3.1.5 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 written 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 and, 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 terms and conditions of 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 and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial 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 and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, 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. If such lien 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 such lien, 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 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 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; or
- **.3** terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material 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 or the Contractor's Subcontractors or Sub-subcontractors; 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 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 owners and users of adjacent sites and utilities.

§ 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, except damage or loss 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, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. 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 report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written 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 such material or substance or who are to perform the task of removal or safe containment of such 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 in the amount of the Contractor's reasonable additional costs of shut-down, 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 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 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 indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance 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 indemnify 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 LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- **.1** Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- **.2** Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- **.3** Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- **.4** Claims for damages insured by usual personal injury liability coverage;
- **.5** Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- **.6** Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- **.7** Claims for bodily injury or property damage arising out of completed operations; and
- **.8** Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

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

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

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

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

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

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

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

§ 11.3.2 BOILER AND MACHINERY INSURANCE

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

§ 11.3.3 LOSS OF USE INSURANCE

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

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 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, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

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, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, 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 covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance 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 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 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.

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, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after 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 an 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 written 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 2.4.

§ 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, whether completed or partially completed, of the Owner or separate contractors 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 except that, 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 such 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 such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 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.

§ 13.4.2 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 there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 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 (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 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 13.5.1, 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 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 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.

§ 13.5.4 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.

§ 13.5.5 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.

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

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time 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 13.7.

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 or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, 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 promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, 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' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor 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' written 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 for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .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 above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, 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' written 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 as described in 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 written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

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

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, 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.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written 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 must 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 CONTINUING CONTRACT PERFORMANCE

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. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein 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.

§ 15.1.5.2 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.

§ 15.1.6 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 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, 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 arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no 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 such 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 an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, 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 15.1.6 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 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. 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 Either party, at its sole discretion, 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 Either party, at its sole discretion, 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 the Owner and Contractor under this Agreement.

DOCUMENT 00 73 13

SUPPLEMENTARY CONDITIONS – AIA

PART 1 GENERAL

1.1 SUMMARY

A. Document Includes:
1. Supplementary Conditions.

B. Related Documents:
1. Document 00701 - General Conditions - AIA 201

1.2 SUPPLEMENTARY CONDITIONS

A. These Supplementary Conditions modify the General Conditions of the Contract for Construction, AIA Document A201-2007, and other provisions of the Contract Documents as indicated below. All provisions which are not so modified remain in full force and effect.

B. The terms used in these Supplementary Conditions which are defined in the General Conditions of the Contract for Construction, AIA Document A201-2007, have the meanings assigned to them in the General Conditions.

ARTICLE 2; OWNER

2.2 Information and services Required of the Owner

Add the following paragraph:

2.2.3.1 Building Permit, water and sewer tap fees as well as power and gas company charges for Permanent Utility connections are the responsibility of the owner.

ARTICLE 4; ADMINISTRATION OF THE CONTRACT

4.2 Architect's Administration of the Contract

Revise Subparagraph 4.2.7, next to the last line:

4.2.7 The Architects review shall not constitute approval of safety precautions or, unless specifically agreed to in writing, signed by the Architect, with specific reference to the submittal, of any construction means, methods, techniques, sequences or procedures.

ARTICLE 7 CHANGES IN THE WORK

7.2.1

Subparagraph 7.2.1, Revise first sentence to read: A Change Order is a written instrument prepared by the Contractor and signed by the Owner, Architect and Contractor stating their agreement upon all of the following.

ARTICLE 9 APPLICATION FOR PAYMENT

9.3.1

Subparagraph 9.3.1, Delete the word "ten" and replace with "seven" days before.....

Add the following sentence to Subparagraph 9.3.1:

The form of Application for Payment shall be notarized AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet.

Add the following Clause 9.3.1.3 to Subparagraph 9.3.1:

9.3.1.3 Until Substantial Completion, the Owner shall pay 90 percent of the amount due the Contractor on account of progress payments.

9.6 Progress Payments

Delete Subparagraph 9.6.3 and the reference to Subparagraph 9.6.3. Architect shall have no obligation to furnish information to subcontractors.

9.8 Substantial Completion

The payment shall be sufficient to increase the total payment to 95 percent of the Contract Sum, less such amounts as the Architect shall determine for incomplete work, unsettled claims, and work not in accordance with the Contract Documents

ARTICLE 10; PROTECTION OF PERSONS AND PROPERTY

10.2 Safety of Persons and Property

Add the following Clause 10.2.4.1 to Subparagraph 10.2.4:

10.2.4.1 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary, the Contractor shall give the Owner reasonable advance notice.

ARTICLE 11; INSURANCE AND BONDS

11.1 Contractor's Liability Insurance

Add the following Clause 11.1.2.1 to Subparagraph 11.1.2:

11.1.2.1 The insurance required by Owner shall be written for not less than the following limits, or greater if required by law:

1. Worker's Compensation Insurance - A Worker's Compensation Insurance Policy in form and substance reasonably acceptable to the Owner and in an amount not less than the statutory limits (as may be amended from time to time), including Employee's Liability Insurance with limits of liability of not less than (i) $100,000 for bodily injury by accident, (ii) $100,000 for bodily injury by disease, each employee, and (iii) $500,000 aggregate liability for disease.

2. Commercial General Liability Insurance - A broad form Commercial General Liability Insurance Policy in form and substance reasonably acceptable to the Owner and including, without limitation, appropriate endorsements adding the following coverages: Premises and Operations Liability; Explosion, Collapse and Underground Damage Liability; Personal Injury Liability (with employee and contractual exclusions deleted), Broad Form Property Damage Liability; Independent Contractors Coverage; Contractual Liability supporting the Owner's indemnification agreements in this Contract; Completed Operations and Products Liability for a period of not less than five(5) years following the Contractor's acceptance of the Project. The Commercial General Liability Insurance Policy must be written with a combined single limit of liability of not less than $1,000,000 for each occurrence for bodily injury and/or property damage, and an annual aggregate of liability of not less than $3,000,000 for completed Operations and Products Liability.

3. Comprehensive Automobile Liability Insurance - The Comprehensive Automobile Liability Insurance Policy must provide coverage for all owned , hired, rented and non-owned automobiles, and must be written with a combined single limit of liability of not less than $1,000,000 for each occurrence of bodily injury and/or property damage.

4. Contractors insurance requirements may be satisfied with a combination of Primary, Umbrella and/or Excess Policies.

5. Aircraft Liability (owned and non-owned) as follows: Limits proposed by the Contractor for the Owner's approval.

6. Watercraft Liability (owned and non-owned) as follows: Limits proposed by the Contractor for the Owner's approval.

Add the following sentence to Subparagraph 11.1.3 of Paragraph 11.1

11.1.3 If this insurance is written on the Comprehensive General Liability policy form, the Certificate shall be AIA Document G705, Certificate of Insurance. If this insurance is written on a Commercial General Liability policy form, ACORD Form 25S will be

acceptable.

Add the following clauses 11.1.3.1 to Paragraph 11.1.3:

All policies shall name King Street Church and affiliates new or hereafter existing, including Auto, General liability including Products/Completed Operations, Umbrella, and Workers Compensation. The Additional Insured Form shall be ISO CG20101195.

ARTICLE 13; MISCELLANEOUS PROVISIONS

Add the following Subparagraph 13.4.3 to Paragraph 13.4

13.4.3 "The services to be performed by the Architect pursuant to the Architect's agreement with the Owner are intended solely for the benefit of the Owner, and no benefit is conferred thereby upon any person or entity not a party to that agreement. No such person or entity shall be entitled to rely on the Architect's performance of its services thereunder, and no right to assert claim against the Architect shall accrue to the Contractor or to any subcontractor, consultant, engineer, supplier, fabricator, manufacturer, lender, tenant, insurer, surety, or any other third party as a result of that agreement or the performance or nonperformance of the Architect's services thereunder."

END OF DOCUMENT

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Work by Owner.

B. Owner supplied products.

C. Contract Limits.

D. Owner occupancy.

1.2 WORK BY OWNER

A. Work by Owner's forces and/or separately let contracts will tentatively be scheduled to coincide with contractor's construction schedule but the responsibility for establishing final work schedule and providing owner with written schedule with exact early, preferred, and late start delivery dates will be contractor's responsibility and any project completion delays by contractor's lack of this scheduling management performance will be considered as delay in construction completion for purpose of withholding payment.

B. Owner's Responsibilities
1. Contact product suppliers and coordinate product delivery dates.
2. Receive and unload products at site; inspect for completeness or damage. Condition and damage to be documented.
3. Handle, store, install and finish products.
4. Assemble, set-up, install all products per manufacturer's instructions.
5. Repair or replace items damaged after receipt.

C. Contractor's Responsibilities
1. Provide Hi-Lift and operator to unload products.
2. Provide temporary storage within building until installation.
3. Contractor's insurance shall be extended to cover these materials once on site.

1.3 OWNER SUPPLIED PRODUCTS

A. Owner's Responsibilities:
1. Purchase products and give contacts to Contractor for scheduling deliveries.
2. Submit claims for transportation damage and replace damaged, defective, or deficient items.
3. Arrange for manufacturer's warranties, inspections, and service.

B. Contractor's Responsibilities:

1. Contact product suppliers and coordinate product delivery dates.
2. Receive and unload products at site; inspect for completeness or damage jointly with Owner. Condition and damage to be documented.
3. Handle, store, install and finish products.
4. Assemble, set-up, install all products per manufacturer's instructions. Turn over a minimum of three copies of all instructions to the Owner for inclusion in maintenance manuals.
5. Repair or replace items damaged after receipt.

C. Items furnished by Owner for installation by Contractor:
1.

1.4 CONTRACT LIMITS

A. General Building Contractor will be responsible for all work shown on the Construction Documents

1.5 OWNER OCCUPANCY

A. Owner reserves the right to establish legal phase occupancy schedule after review of contractor's proposed construction schedule or at any time during construction. Partial/phased occupancy by Owner will constitute substantial completion of area occupied for purpose of reduction of retainage.

B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Cash allowances.

B. Schedule of values.

C. Applications for payment.

D. Change procedures.

E. Defect Assessment.

F. Alternates.

1.2 RELATED SECTIONS

A. Section 01 60 00 - Product Requirements: Product substitutions and options.

1.3 CASH ALLOWANCES

A. Costs Included in Cash Allowances: Cost of product to Contractor or Subcontractor, less applicable trade discounts; delivery to site and applicable taxes.

B. Costs Not Included in Cash Allowances But Included in Contract Sum: Product delivery to site and handling at site, including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing.

C. Architect Responsibilities:
1. Consult with Contractor for consideration and selection of products.
2. Select products in consultation with Owner and transmit decision to Contractor.

D. Contractor Responsibilities:
1. Assist Architect in selection of products, suppliers and installers.
2. Obtain proposals from suppliers and installers and offer recommendations.
3. On notification of selection by Architect, Owner, execute purchase agreement with designated supplier and installer.
4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
5. Promptly inspect products upon delivery for completeness, damage, and defects.
6. Submit claims for transportation damage.

7. Prepare Change Order.

E. Differences in costs will be adjusted by Change Order.

F. Schedule:
1. Carpet Tile
a. Allowance including installation: $30.00/ sq yd.

1.4 SCHEDULE OF VALUES

A. Submit printed schedule on AIA Form G703 - Continuation Sheet for G702.

B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

C. Format: Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section.

D. Include in each line item, amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by unit cost to achieve total for each item.

E. Include within each line item, direct proportional amount of Contractor's overhead and profit.

F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.5 APPLICATIONS FOR PAYMENT

A. Submit three copies of each application on AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet for G702.

B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

C. Submit updated construction schedule with each Application for Payment.

D. Payment Period: Payment applications submitted to the Owner and Architect by the first of the month will be paid by the twentieth of the same month.

E. Release of liens shall be provided with each application for payment covering all previous payments.
1. General Contractor, Subcontractors, and Suppliers will submit Release of Liens for any payment received for $10,000 or greater.

1.6 CHANGE PROCEDURES

A. The Architect will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time as authorized by AIA Form A 201, 2007 Edition, Paragraph 7.4 by issuing supplemental instructions in writing.

B. The Architect may issue a Proposal Request including a detailed description of proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate in such time as will not delay the work.

C. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation.

D. Construction Change Directive: Architect may issue directive, approved by owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum or Contract Time. Promptly execute change.

E. Time and Material Force Account Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Architect will determine change allowable in Contract Sum and Contract Time as provided in Contract Documents.

F. Maintain detailed records of work done on Time and Material Force Account basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

G. Change Order Forms: AIA G701 AIA Change Order.

H. Execution of Change Orders: General Contractor will issue Change Orders for signatures of parties as provided in Conditions of the Contract.

1.7 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Architect, it is not practical to remove and replace the Work, the Architect will direct appropriate remedy or adjust payment.

1.8 ALTERNATES

A. Add Alternate No. 1: Add wood board wall to conference room 146, Corridor 103, 127 corridor into 128 vestibule.

Add Alternate No. 2: Add Vinyl wall covering in lieu of paint where noted on Finish Schedule.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Coordination and project conditions.

B. Field engineering.

C. Preconstruction meeting.

D. Progress meetings.

E. Pre-installation meetings.

F. Cutting and patching.

1.2 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.

C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.

E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.

F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

A. Employ Land Surveyor registered in the state in which the project is located and acceptable to Architect.

B. Contractor will locate and protect survey control and reference points. Promptly notify Architect of discrepancies discovered.

C. Control datum for survey is that shown on Drawings.

D. Verify set-backs and easements; confirm drawing dimensions and elevations.

E. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

F. Submit copy of site drawing and certificate signed by Land Surveyor certifying elevations and locations of the Work are in conformance with Contract Documents.

1.4 PRECONSTRUCTION MEETING

A. Architect will schedule meeting after Notice of Award.

B. Attendance Required: Owner, Architect, Contractor, Testing Firm, and major subcontractors.

C. Agenda:
1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates. (If Required)
3. Distribution of Contract Documents.
4. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
5. Designation of personnel representing parties in Contract, and Architect.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
7. Review of required procedures for testing.

D. Architect will record minutes and distribute copies within two days after meeting to participants.

1.5 PROGRESS MEETINGS

A. Architect will make arrangements for meetings every two weeks, prepare agenda with copies for participants and preside at meetings.

B. Attendance Required: Project manager, job superintendent, major subcontractors and

suppliers, Owner, Architect as appropriate to agenda topics for each meeting.

C. Agenda:
1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems impeding planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to Work.

D. Architect will record minutes and distribute copies within two days after meeting to participants.

1.6 PRE-INSTALLATION MEETINGS

A. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.

B. Require attendance of parties directly affecting, or affected by, Work of specific section.

C. Notify Architect five days in advance of meeting date.

D. Prepare agenda and preside at meeting:
1. Review conditions of installation, preparation and installation procedures.
2. Review coordination with related work.

E. Contractor shall record minutes and distribute copies within two days after meeting to participants and Architect.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

A. Employ skilled and experienced installer to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements affecting:

1. Structural integrity of element.
2. Integrity of weather-exposed or moisture-resistant elements.
3. Efficiency, maintenance, or safety of element.
4. Visual qualities of sight exposed elements.
5. Work of Owner or separate contractor.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
1. Fit the several parts together, to integrate with other Work.
2. Uncover Work to install or correct ill-timed Work.
3. Remove and replace defective and non-conforming Work.
4. Remove samples of installed Work for testing.
5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.

E. Cut masonry and concrete materials using masonry saw or core drill.

F. Restore Work with new products in accordance with requirements of Contract Documents.

G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.

J. Identify hazardous substances or conditions exposed during the Work to Architect for decision or remedy.

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Submittal procedures.

B. Construction progress schedules.

C. Proposed products list.

D. Product data.

E. Shop drawings.

F. Samples.

G. Design data.

H. Test reports.

I. Certificates.

J. Manufacturer's instructions.

K. Manufacturer's field reports.

L. Erection drawings.

1.2 RELATED SECTIONS

A. Section 01 70 00 - Execution Requirements: Contract Warranties, manufacturers' certificates, and closeout submittals.

1.3 SUBMITTAL PROCEDURES

A. Transmit each submittal on Contractor's standard transmittal form.

B. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.

C. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.

D. Schedule submittals to expedite Project, and deliver to Architect at business address. Coordinate submission of related items.

E. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.

F. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.

G. Allow space on submittals for Contractor and Architect review stamps.

H. When revised for resubmission, identify changes made since previous submission.

I. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

J. Submittals not requested will not be recognized or processed.

K. Submittals that are returned for correction or inadequate information more than once will be reviewed by the Architect at the Contractor's expense.

1.4 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial schedules within 15days after date of Owner-Contractor Agreement.

B. Revise and resubmit as required

C. Submit revised Progress Schedules with each Application for Payment, identifying changes since previous version.

D. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.

E. Indicate estimated percentage of completion for each item of Work at each submission.

F. Submit computer generated horizontal bar chart with separate line tied to schedule of values, identifying first work day of each week.

G. Submit separate schedule of submittal dates for shop drawings, product data and samples, and product delivery dates.

H. Indicate product delivery dates for Owner furnished products and products identified under Allowances.

1.5 PROPOSED PRODUCTS LIST

A. Within 15 days after date of Owner-Contractor Agreement, submit list of major products

proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.6 PRODUCT DATA

A. Product for Review:
   1. Product Data: Submit to Architect for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
   2 After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01 70 00.

B. Product Data for Information:
   1. Submitted for the Architect's knowledge as contract administrator or for the Owner.

C. Product Data for Project Close-Out:
   1. Submitted for the Owner's benefit during and after project completion.

D. Submit number of copies Contractor requires, plus one copy for the owner and two copies Architect will retain.

E. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

F. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

G. After review distribute in accordance with Submittal Procedures article above and provide copies for record documents described in Section 01 70 00.

1.7 SHOP DRAWINGS

A. Shop Drawings for Review:
   1. Submit to Architect for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
   2. Produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01 70 00.
   3. After review produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01 70 00.

B. Shop Drawings for Information:

1. Submitted for the Architect's knowledge as contract administrator or for the Owner.

C. Shop Drawings for Project Close-Out:
1. Submitted for the Owner's benefit during and after project completion.

D. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

E. Submit number of copies Contractor requires, plus one copy for the owner and two copies Architect will retain.

1.8 SAMPLES

A. Samples for Review:
1. Samples: Submit to Architect for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
2. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01 70 00.

B. Samples for Information:
1. Submitted for the Architect's knowledge as contract administrator or for the Owner.

C. Samples For Selection as Specified in Product Sections:
1. Submit to Architect for aesthetic, color, or finish selection.
2. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Architect or Owner selection.
3. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01 70 00.

D. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

E. Include identification on each sample, with full Project information.

F. Submit number of samples specified in individual specification sections; Architect will retain one sample.

G. Reviewed samples which may be used in the Work are indicated in individual specification sections.

H. Samples will not be used for testing purposes unless specifically stated in specification section.

1.9 DESIGN DATA

A. Submit for Architect's knowledge as contract administrator for Owner.

B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.10 TEST REPORTS

A. Submit for Architect's knowledge as contract administrator for Owner.

B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.11 CERTIFICATES

A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Architect, in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect.

1.12 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting and finishing to Architect for delivery to Owner in quantities specified for Product Data.

B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.13 MANUFACTURER'S FIELD REPORTS

A. Submit reports for Architect benefit as contract administrator or for Owner.

B. Submit report in duplicate within 30 days of observation to Architect for information.

C. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.14 ERECTION DRAWINGS

A. Submit drawings for Architect's benefit as contract administrator or for Owner.

B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

C. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality control and control of installation.

B. Tolerances

C. References.

D. Mock-up requirements.

E. Testing and inspection services.

F. Manufacturers' field services.

1.2 RELATED SECTIONS

A. Section 01 33 00 - Submittal Procedures: Submission of manufacturer’s instructions and certificates.

B. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.3 QUALITY CONTROL AND CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. When manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform Work by persons qualified to produce required and specified quality.

F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand

stresses, vibration, physical distortion, or disfigurement.

1.4 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.5 REFERENCES

A. For products or workmanship specified by association, trade or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.

C. Obtain copies of standards where required by product specification sections.

D. Neither contractual relationships, duties nor responsibilities of parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in reference documents.

1.6 MOCK-UP REQUIREMENTS

A. Tests will be performed under provisions identified in this section and identified in respective product specification sections.

B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

C. Accepted mock-ups shall be comparison standard for remaining Work.

D. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so by Architect.

1.7 TESTING AND INSPECTION SERVICES

A. Owner will employ and pay for specified services of an independent firm to perform testing and inspection. Independent testing firm is subject to approval by the Architect.

B. The independent firm will perform tests, inspections including photographic

documentation and other services specified in individual specification sections and as required by Architect.

C. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by Architect or Owner.

D. Reports will be submitted by independent firm within 72 hours to Architect , Contractor, and Authority having jurisdiction indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
   1. Notify Architect and independent firm 48 hours prior to expected time for operations requiring services.
   2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.

F. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

G. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by Architect . Payment for re-testing or re-inspection will be the sole responsibility of the Contractor.

1.8 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment and as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Architect 30 days in advance of required observations. Observer subject to approval of Architect.

C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

D. Refer to Section 01 33 00 - SUBMITTAL PROCEDURES, MANUFACTURERS' FIELD REPORTS article.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Verify utility services are available, of correct characteristics, and in correct locations.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION

SECTION 01 50 00

TEMPORARY AND PERMANENT FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary Utilities:
1. Temporary and permanent electricity.
2. Temporary and permanent lighting for construction purposes.
3. Temporary and permanent heating.
4. Temporary and permanent cooling.
5. Temporary and permanent ventilation.
6. Telephone service.
7. Facsimile service.
8. Internet Service.
9. Temporary and permanent water service.
10. Temporary and permanent sanitary facilities.
11. Temporary and permanent gas facilities

B. Construction Facilities:
1. Field offices and sheds.
2. Progress cleaning and waste removal.
3. Project identification.

C. Temporary Controls:
1. Barriers.
2. Enclosures and fencing.

1.2 RELATED SECTIONS

A. Section 01 70 00 - Execution Requirements: Final cleaning.

1.3 TEMPORARY AND PERMANENT ELECTRICITY

A. Provide and pay for power service required from utility source as needed for construction operation until project is substantially complete.

B. Provide power outlets, with branch wiring and distribution boxes located as required for construction operations. Provide flexible power cords as required for portable construction tools and equipment.

C. Provide main service disconnect and over-current protection at convenient location.

D. Permanent convenience receptacles may be utilized during construction. Any permanent convenience receptacles damaged during construction must be replaced upon completion of construction.

E. Provide and maintain service per OSHA standards.

1.4 TEMPORARY AND PERMANENT LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain lighting for construction operations per OSHA standards..

B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps for specified lighting levels.

C. Permanent building lighting may be utilized during construction.

1.5 TEMPORARY AND PERMANENT HEATING

A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations until project is substantially complete.

B. Prior to operation of permanent equipment for temporary heating purposes, verify installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

C. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in product sections.

1.6 TEMPORARY AND PERMANENT VENTILATION

A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.7 TELEPHONE SERVICE

A. Provide, maintain, and pay for telephone service to field office at time of project mobilization.

1.8 FACSIMILE SERVICE

A. Provide, maintain and pay for facsimile service and dedicated telephone line to field office at time of project mobilization.

1.9 TEMPORARY AND PERMANENT WATER SERVICE

A. Provide and pay for suitable quality water service as needed to maintain specified conditions for construction operations at time of project mobilization until project is substantially complete.

B. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.

1.10 INTERNET SERVICE

A. Provide, maintain and pay for Internet Service to Field Office at time of Project Mobilization

1.11 TEMPORARY AND PERMANENT SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide facilities at time of project mobilization until project is substantially complete.

1.12 TEMPORARY AND PERMANENT GAS

A. Provide and pay for gas as needed to maintain specified conditions for construction operations until project is substantially complete.

1.13 FIELD OFFICES AND SHEDS

A. Office: Weather tight, with lighting, electrical outlets, heating, cooling and ventilating equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 10 - 12 persons.

C. Provide computer with email capability for superintendent.

D. 45 days prior to substantial completion provide owner with trailer for training to accommodate 6-8 persons. Trailer to be heated and cooled and provided with electric, internet and phone service.

1.14 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition daily.
   1. Access road must be kept clean and clear of any debris or rubbish at all times.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from site periodically and dispose off-site at a state approved construction waste site. Contractor to pay all disposal charges.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

F. Owner will provide cleaning services back-charged to contractor if building and site are not kept neat and clean.

1.15 PROJECT IDENTIFICATION

A. Provide 8 feet wide by 4 feet high project sign of exterior grade plywood and wood frame construction, painted with exhibit lettering by professional sign painter, to Architects design and colors.

B. List title of Project, names of Owner, Architect, Engineer and Contractor.

C. Erect project sign and Architects sign on site at location established by Architect.

D. Architect will provide his sign to Contractor for erection. No other signs are allowed except those permitted by law.

1.16 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.17 ENCLOSURES AND FENCING

A. Exterior Enclosures:
   1. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Products.

B. Product delivery requirements.

C. Product storage and handling requirements.

D. Product options.

E. Product substitution procedures.

F. Equipment electrical characteristics and components.

1.2 RELATED SECTIONS

A. Section 01 40 00 - Quality Requirements: Product quality monitoring.

1.3 PRODUCTS

A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.

B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.

C. Furnish interchangeable components from same manufacturer for components being replaced.

1.4 PRODUCT DELIVERY REQUIREMENTS

A. Transport and handle products in accordance with manufacturer's instructions.

B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.

C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.5 PRODUCT STORAGE AND HANDLING REQUIREMENTS

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

B. Store with seals and labels intact and legible.

C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

D. For exterior storage of fabricated products, place on sloped supports above ground.

E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

F. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.

G. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

H. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.6 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: products of one of manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for any manufacturer not named in accordance with the following article.

1.7 PRODUCT SUBSTITUTION PROCEDURES

A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during bidding period to requirements specified in this section.

B. Substitutions will be considered when a product becomes unavailable through no fault of Contractor.

C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

D. A request constitutes a representation that Bidder:
   1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
   2. Will provide same warranty for Substitution as for specified product.

3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
4. Waives claims for additional costs or time extension which may subsequently become apparent.
5. Will reimburse Owner and Architect for review or redesign services associated with approval of Substitution by authorities having jurisdiction.

E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.

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

PART 2 PRODUCTS

2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

A. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.

B. Cord and Plug: Furnish minimum 6 foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 70 00

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Closeout procedures.

B. Final cleaning.

C. Starting of systems.

D. Demonstration and instructions.

E. Testing, adjusting and balancing.

F. Protecting installed construction.

G. Project record documents.

H. Operation and maintenance data.

I. Manual for Materials and Finishes.

J. Spare parts and maintenance products.

K. Product warranties and product bonds.

L. Adjusting.

1.2 RELATED SECTIONS

A. Section 01 40 00 - Quality Requirements: Manufacturer’s field reports.

B. Section 01 50 00 - Temporary Facilities and Controls: Progress cleaning.

C. Section 22 11 00 - Facility Water Distribution

D. Section 22 14 29 - Sump Pumps

E. Section 22 14 30 - Water Pumps

F. Section 22 30 00 - Electric Domestic Water Heaters

G. Section 22 40 00 - Plumbing Fixtures

H. Section 23 09 00 - Instrumentation and Control for HVAC

I. Section 23 33 00 - Air Duct Accessories

J. Section 23 34 00 - HVAC Fans

K. Section 23 36 01 - Electric Heaters

L. Section 23 81 03 - Packaged Rooftop Air Conditioning Units - Small Capacity

1.3 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architects review.

B. Provide submittals to Architect required by authorities having jurisdiction.

C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

D. Owner will only occupy full floors of finished guest rooms for the installation of FF&E.

1.4 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces clean walls, and mop tile surfaces.

C. Clean equipment and fixtures to sanitary condition with cleaning materials appropriate to surface and material being cleaned.

D. Replace filters of operating equipment.

E. Clean debris from roofs, gutters, downspouts, and drainage systems.

F. Clean site; sweep paved areas (hose down with fire hose parking lot 48 hours prior to opening), rake clean landscaped surfaces.

G. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.5 STARTING OF SYSTEMS

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify Owner seven days prior to start-up of each item.

C. Verify each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.

D. Verify tests, meter readings, and specified electrical characteristics agree with those required by equipment or system manufacturer.

E. Verify wiring and support components for equipment are complete and tested.

F. Execute start-up under supervision of applicable manufacturer's representative in accordance with manufacturers' instructions.

G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

H. Submit a written report in accordance with Section 01 30 00 that equipment or system has been properly installed and is functioning correctly.

1.6 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of final inspection. Video and tape demonstration and instructions for Owner’s future use. Verify video format with Owner.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

D. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment.

E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

F. Required instruction time for each item of equipment and system is specified in individual sections.

1.7 TESTING, ADJUSTING AND BALANCING

A. Contractor will appoint, employ, and pay for services of independent firm to perform

testing, adjusting, and balancing. Independent firm must be acceptable to and approved by the Architect in writing.

B. Independent firm will perform services specified in Section 23 05 93.

C. Reports will be submitted by independent firm to Architect indicating observations and results of tests and indicating compliance or non-compliance with requirements of Contract Documents.

1.8 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual specification sections.

B. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

C. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

D. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

E. Prohibit traffic from landscaped areas.

1.9 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed Shop Drawings, Product Data, and Samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress, not less than weekly.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and modifications.

F. Record Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Details not on original Contract drawings.

G. Submit documents to Architect with claim for final Application for Payment.

1.10 OPERATION AND MAINTENANCE DATA

A. Submit data bound in 8-1/2 x 11 inch (A4) text pages, three D side ring binders with durable covers.

B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.

C. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

D. Contents: Prepare Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
   1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
   2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
      a. Significant design criteria.
      b. List of equipment.
      c. Parts list for each component.
      d. Operating instructions.
      e. Maintenance instructions for equipment and systems.
      f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
   3. Part 3: Project documents and certificates, including the following:
      a. Shop drawings and product data.
      b. Air and water balance reports.
      c. Certificates.
      d. Originals of warranties.

1.11 MANUAL FOR MATERIALS AND FINISHES

A. Submit one draft copy of completed volumes 15 days prior to final inspection. This draft copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.

B. Submit two sets of revised final volumes in final form within 10 days after final inspection.

1.12 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.

B. Deliver to Project site and place in location as directed; obtain receipt prior to final payment.

1.13 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers. Copies shall be notarized.

B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.

C. Include Table of Contents and assemble in three D side ring binder with durable cover.

D. Submit prior to final Application for Payment.

E. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

1.14 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 02 41 19

SELECTIVE STRUCTURE DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Demolishing designated building equipment and fixtures.
2. Demolishing designated construction.
3. Cutting and alterations for completion of the Work.
4. Removing designated items for Owner's retention.
5. Removing demolished materials.

1.2 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Demolition Schedule: Indicate overall schedule and interruptions required for utility and building services.

1.3 QUALITY ASSURANCE

A. Conform to applicable code for demolition work, dust control, products requiring electrical disconnection and re-connection.

B. Conform to applicable code for procedures when hazardous or contaminated materials are discovered.

C. Obtain required permits from authorities having jurisdiction.

1.4 PRE-INSTALLATION MEETINGS

A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

1.5 SCHEDULING

A. Section 01 30 00 - Administrative Requirements: Requirements for scheduling.

B. Schedule Work to coincide with new construction.

C. Cooperate with Owner in scheduling noisy operations and waste removal that may impact Owners operation and in adjoining spaces.

D. Coordinate utility and building service interruptions with Owner.

1. Do not disable or disrupt building fire or life safety systems without three days prior written notice to Owner.
2. Schedule tie-ins to existing systems to minimize disruption.
3. Coordinate Work to ensure fire sprinklers, fire alarms, smoke detectors, emergency lighting, exit signs and other life safety systems remain in full operation in occupied areas.

1.6 PROJECT CONDITIONS

A. Conduct demolition to minimize interference with adjacent building areas.

B. Cease operations immediately if structure appears to be in danger and notify Architect/Engineer. Do not resume operations until directed.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 PREPARATION

A. Notify affected utility companies before starting work and comply with their requirements.

B. Mark location and termination of utilities.

C. Erect, and maintain temporary barriers and security devices, including warning signs and lights, and similar measures, for protection of the public, Owner and existing improvements indicated to remain.

D. Erect and maintain weatherproof closures for exterior openings.

E. Erect and maintain temporary partitions to prevent spread of dust, odors, and noise to permit continued Owner occupancy.

F. Prevent movement of structure; provide temporary bracing and shoring required to ensure safety of existing structure.

G. Provide appropriate temporary signage including signage for exit or building egress.

H. Do not close or obstruct building egress path.

I. Do not disable or disrupt building fire or life safety systems without 3 days prior written notice to Owner.

3.2 SALVAGE REQUIREMENTS

A. Coordinate with Owner to identify building components and equipment required to be removed and delivered to Owner.

B. Tag components and equipment Owner designates for salvage.

C. Protect designated salvage items from demolition operations until items can be removed.

D. Carefully remove building components and equipment indicated to be salvaged.

E. Disassemble as required to permit removal from building.

F. Package small and loose parts to avoid loss.

G. Mark equipment and packaged parts to permit identification and consolidation of components of each salvaged item.

H. Prepare assembly instructions consistent with disassembled parts. Package assembly instructions in protective envelope and securely attach to each disassembled salvaged item.

I. Deliver salvaged items to Owner. Obtain signed receipt from Owner.

3.3 DEMOLITION

A. Conduct demolition to minimize interference with adjacent building areas.

B. Maintain protected egress from and access to adjacent existing buildings at all times.

C. Do not close or obstruct roadways or sidewalks without permits.

D. Cease operations immediately when structure appears to be in danger and notify Architect/Engineer.

E. Disconnect and remove designated utilities within demolition areas.

F. Cap and identify abandoned utilities at termination points when utility is not completely removed. Annotate Record Drawings indicating location and type of service for capped utilities remaining after demolition.

G. Demolish in orderly and careful manner. Protect existing improvements.

H. Remove demolished materials from site except where specifically noted otherwise. Do not burn or bury materials on site.

I. Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.

J. Remove temporary Work.

3.4 SCHEDULES

A. See Drawing

END OF SECTION

SECTION 03 20 00

CONCRETE REINFORCING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Reinforcing bars.
2. Welded wire fabric.
3. Reinforcement accessories.

B. Related Sections
1. Section 01 30 00 - Administrative Requirements
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 03 30 00 - Cast-In-Place Concrete.
5. Section 04 20 00 - Unit Masonry

1.2 REFERENCES

A. American Concrete Institute:
1. ACI 301 - Specifications for Structural Concrete.
2. ACI 318 - Building Code Requirements for Structural Concrete.
3. ACI 530.1 - Specifications for Masonry Structures.
4. ACI SP-66 - ACI Detailing Manual.

B. ASTM International:
1. A185/A185M-07 Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
2. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.

C. American Welding Society:
1. AWS D1.4 - Structural Welding Code - Reinforcing Steel.

D. Concrete Reinforcing Steel Institute:
1. CRSI - Manual of Standard Practice.
2. CRSI - Placing Reinforcing Bars.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate bar sizes, spacings, locations, and quantities of reinforcing steel, bending and cutting schedules, and supporting and spacing devices.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with CRSI - Manual of Standard Practice, ACI 301, ACI 318.

B. Prepare shop drawings in accordance with ACI SP-66.

1.5 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

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

PART 2 PRODUCTS

2.1 REINFORCEMENT

A. Reinforcing Steel: ASTM A615/A615M, 60 ksi yield grade, deformed billet steel bars, uncoated finish.

B. Welded Plain Wire Fabric: ASTM A185/A185M; in flat sheets or coiled rolls unfinished.

2.2 ACCESSORY MATERIALS

A. Tie Wire: Minimum 16 gage annealed type.

B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor retarder puncture.

2.3 FABRICATION

A. Fabricate concrete reinforcement in accordance with CRSI Manual of Practice, ACI 318, ACI SP-66.

B. Locate reinforcement splices not indicated on Drawings, at point of minimum stress. Review location of splices with Architect/Engineer.

PART 3 EXECUTION

3.1 PLACEMENT

A. Place, support and secure reinforcement against displacement. Do not deviate from required position beyond specified tolerance.

B. Conform to applicable code for concrete cover over reinforcement.

C. Bond and ground reinforcement in accordance with requirements of Section 26 05 26

END OF SECTION

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART I GENERAL

1.1 SUMMARY

A. Section includes cast-in-place concrete and accessories for the following:
   1. Slabs on grade.
   2. Footings.
   3. Sealer

B. Related Sections:
   1. Section 01 30 00 - Administrative Requirements
   2. Section 01 33 00 - Submittal Procedures.
   3. Section 01 40 00 - Quality Requirements.
   4. Section 03 20 00 - Concrete Reinforcing.

1.2 REFERENCES

A. American Concrete Institute:
   1. ACI 211.1 - Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete.
   2. ACI 212.3 - Admixtures for Concrete.
   3. ACI 212.4 - Guide for Use of Admixtures in Concrete.
   4. ACI 301 - Specifications for Structural Concrete.
   5. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete.
   6. ACI 305 - Hot Weather Concreting.
   7. ACI 306.1 - Standard Specification for Cold Weather Concreting.

B. ASTM International:
   1. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
   2. ASTM C33 - Standard Specification for Concrete Aggregates.
   3. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimen.
   4. ASTM C94/C94M-03 - Standard Specification for Ready-Mixed Concrete.
   5. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic Cement Concrete.
   6. ASTM C150 - Standard Specification for Portland Cement.
   7. ASTM C192/C192M - Standard Practice for Making and Curing Concrete Specimens in the Laboratory.
   8. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
   9. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete

10. ASTM C494/C494M- Standard Specification for Chemical Admixtures for Concrete.
11. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Design Data: Submit design mix/mixes for review and approval prior to placement of concrete.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution Requirements: Project record documents.

B. Project Record Documents: Accurately record actual locations of embedded utilities and components concealed from view in finished construction.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with ACI 301.

B. Maintain one copy of each document on site.

C. Acquire cement and aggregate from one source for Work.

D. Conform to ACI 305 when concreting during hot weather.

E. Conform to ACI 306.1 when concreting during cold weather.

1.6 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

PART 2 PRODUCTS

2.1 CONCRETE MATERIALS

A. Cement:
1. ASTM C150, Type I - Normal.
2. Cement type used shall correspond to that upon which selection of concrete proportions was based in the mix design.

B. Fly Ash:
1. Fly Ash: ASTM C618, Class F.
2. Non-Staining.

3. Suited to provide hardened concrete of uniform light grey color.
4. Maximum loss on ignition: 4 percent.
5. Compatible with other concrete ingredients and having no deleterious effects on the hardened concrete.
6. Produced by source suitable for providing fly ash for concrete production.
7. Cement and fly ash type used shall correspond to that upon which selection of concrete proportions was used in the mix design.

C. Water:
1. Water: Clean and not detrimental to concrete.
2. Free of oils, acids, and organic matter.
3. Potable.

D. Aggregate for Normal Weight Concrete:
1. Meet the following sieve analysis:

SIEVE SIZE	WEIGHT PERCENT PASSING
1 inch	100 percent
3/4 inch	90-100
3/8 inch	25-55
NO. 4	0-10
No. 8	0-5

2. Maximum size of coarse aggregate for concrete: 3/4 inch
3. Fine and coarse aggregates to be regarded as separate ingredients.
4. Each size and amount of coarse and fine aggregate to conform to grading requirements of indicated specification standard.
5. Fine aggregate to be natural, not manufactured.
6. Fifty percent of the total weight of aggregates in each cubic yard of concrete to be limestone.

E. Maximum total chloride ion content for concrete mix including all ingredients measured as a weight percent of cement: 0.10 for all concrete.

2.2 ADMIXTURES

A. Air Entrainment: ASTM C260.

B. Water reducing, retarding, and accelerating: Conform to ASTM C494/C494M-99ae1, Types A through G, and provisions of ACI 212.3 and 212.4.

C. High range water reducers (superplasticizers): Conform to ASTM C494/C494M-99ae1, Types F or G.

D. Pozzolan: ASTM C618.

E. Admixtures to be Chloride free. Do not use Calcium Chloride.

F. Provide admixtures of same type, manufacturer and quality as used in establishing required concrete proportions in the mix design.

2.4 JOINT DEVICES AND FILLER MATERIALS

A. Joint Filler: Asphalt impregnated fiberboard or felt, 1/2 inch thick..

2.5 CURING MATERIALS

A. Clear, Waterborne, Curing and Sealing Compound: ASTM C1315, 25% solids minimum.

2.6 CONCRETE MIX

A. General:
1. Provide concrete capable of being placed without aggregate segregation and, when cured, of developing all properties specified.
2. All concrete to be normal weight concrete weighing approximately 145 to 150 lbs. per cubic foot at 28 days after placement.

B. Minimum 28 Day Compressive Strengths:
1. Normal weight concrete slab-on-grade - 4,000 psi.
2. Foundations - 3000psi

C. Air Entrainment:
1. Provide air entrainment in all concrete exposed to weather resulting in a total air content percent by volume as follows:
a. 3/4 inch maximum aggregate size: 4 to 6 percent total air content.

D. Slump:
1. 4 inch maximum, 1 inch minimum measured at point of discharge into the concrete construction member.
2. Provide additional water at ready mix plant for concrete that is to be pumped to allow for slump due to pumping. Provide only enough additional water so that slump of concrete at discharge end of pump hose does not exceed maximum slump specified.

E. Proportioning:
1. General:
a. Proportion ingredients to produce a mixture which will work readily into corners and angles of forms and around reinforcement by methods of placement and consolidation employed without permitting materials to segregate or excess free water to collect on surface.
b. Proportion ingredients to produce proper placibility, durability, strength and other required properties.
2. Normal weight concrete minimum cement content;

SPECIFIED STRENGTH (PSI)	MINIMUM CEMENT CONTENT (SACKS/CY)	MINIMUM CEMENT (LBS/CY)
3000	5-1/2	517*
4000	6-1/2	611*

* If fly ash is proposed for use, the weight of fly ash plus weight of Portland Cement shall equal these values.

3. Fly Ash:
   a. For cast-in-place concrete only, a maximum of 25 percent by weight of Portland Cement per cubic yard may be replaced with fly ash.
   b. If fly ash is used, the water to fly ash cement ratio not to exceed the maximum water cement ratio specified in this section.
   c. Fly ash proposed for use subject to approval of Architect.
   d. Not to be used in concrete exposed to the elements.
4. Water reducing, retarding, and accelerating mixtures:
   a. Use in accordance with manufacturer's instructions.
   b. Do not use unless required by these specifications or approved for use by the Architect.
5. High range water reducers (superplacicizers):
   a. Use in accordance with manufacturer's instructions.
   b. Do not use unless required by these specifications or approved for use by the Architect.
   c. Maximum concrete slump before addition of admixture to be 4 inches. Maximum slump after addition to be 8 inches.
   d. Maximum water-cement ratio of the concrete mix containing a high range water reducer is 0.40.
6. Concrete mix proportioning methods for weight concrete:
   a. Method 1:
      1. Used when combination of materials proposed is to be evaluated and proportions selected to be on a basis of trial mixes.
      2. Produce mixes having suitable proportions and consistencies based on ACI 211.1, using at least three different water cement ratios or cement contents which will produce a range of compressive strengths encompassing the required average strength.
      3. Design trial mixes to produce a slump within 0.75 inches of maximum specified, and for air entrained concrete, air content within 0.5 percent specified.
      4. For each water cement ratio or cement content, make at least three compression test cylinders for each specified test age, and cure in accordance with ASTM C192/C192M. Test strength at 28 days in accordance with ASTM C39/C39M.
      5. From results of these tests, plot a curve showing relationship between water cement ratio or cement content and compressive strength.

6. From this curve select water cement ratio or cement content to be used to produce required average strength.
7. Use cement content and mixture proportions such that maximum water cement ratio is not exceeded when slump is maximum specified.
8. Base field control on maintenance of proper cement content, slump, air content, and water cement ratio.
9. See paragraph hereafter for definition of required average strength.

b. Method 2:
1. In lieu of trial mixes, field test records for concrete made with similar ingredients may be used.
2. Use of proposed concrete mix proportions based on field test records subject to approval by Architect based on their information content and demonstrate ability to provide the required average strength.
3. Field test records to represent materials, proportions and conditions similar to those specified. Changes in the materials, proportions and conditions within the test records shall have not been more restricted than those for the proposed concrete mix.
4. Field test records to consist of less than 30 but not less than 10 consecutive tests provided the tests encompass a period of not less than 45 consecutive days.
5. Required concrete proportions may be established by interpolation between the strengths and proportions of two or more test records each of which meets the requirements of this section.

7. Required average strengths:
a. Required average strength to exceed the specified 28 day compressive strength by the amount determined or calculated in accordance with paragraph 4.3 of ACI 318 using the standard deviation of the proposed concrete production facility as described in paragraph 4.3.1 of ACI 318.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify requirements for concrete cover over reinforcement.

C. Verify anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete.

3.2 PREPARATION

A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent.

B. Remove all debris from spaces to be occupied by concrete prior to placement.

C. Remove water from excavations prior to placing concrete.

D. Divert any water flow into excavation and remove.

3.3 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Notify Architect minimum 48 hours prior to commencement of operations.

C. Ensure reinforcement, inserts, and embedded parts are not disturbed during concrete placement.

D. Separate slabs on grade from vertical surfaces with 1/2 inch thick joint filler.

E. Place joint filler as shown on drawings. Set top to required elevations. Secure to resist movement by wet concrete.

F. Extend joint filler from bottom of slab to within 1/4 inch of finished slab surface. Conform to Section 07 90 00 for finish joint sealer requirements.

G. Do not interrupt successive placement; do not permit cold joints to occur.

H. Saw cut joints within 24 hours after placing. Use 1/8 inch thick blade, cut into 1/4 depth of slab thickness.

I. Screed walks and slabs on grade level, maintaining surface flatness of maximum 1/4 inch in 10 ft.

3.4 CONCRETE FINISHING

A. Finish concrete floor surfaces in accordance with ACI 301.

B. Light broom finish.

3.5 CURING AND PROTECTION

A. 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.

C. Perform curing of concrete by curing and sealing compound or by moisture-retaining cover curing.

D. Cover concrete surfaces with moisture-retaining cover, laced in widest practicable width with sides and ends lapped at least 3 inches and sealed by waterproof tape adhesive.

E. Apply curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours and after surface water sheen has disappeared). Apply uniformly in continuous operation by power spray or roller in accordance manufacturer's directions. Re-coat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair during curing period.

F. Use membrane curing compounds that will not affect surfaces to be covered with finish materials applied directly to concrete.

3.6 PATCHING

A. Allow Architect to inspect concrete surfaces immediately upon removal of forms.

B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Architect upon discovery.

C. Patch imperfections in accordance with ACI 301.

3.7 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.

B. Repair or replacement of defective concrete will be determined by Architect.

C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

END OF SECTION

SECTION 04 05 03

MASONRY MORTARING AND GROUTING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes mortar and grout for masonry.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 04 20 00 - Unit Masonry.
5. Section 08 12 14 - Standard Steel frames.

1.2 REFERENCES

A. American Concrete Institute:
1. ACI 530 - Building Code Requirements for Masonry Structures.
2. ACI 530.1 - Specifications for Masonry Structures.

B. ASTM International:
1. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.
2. ASTM C150 - Standard Specification for Portland Cement.
3. ASTM C207 - Standard Specification for Hydrated Lime for masonry purposes.
4. ASTM C231 – Test Method for air content of freshly mixed concrete by the pressure method.
5. ASTM C270 - Standard Specification for Mortar for Unit Masonry.
6. ASTM C387/C387M - Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete.
7. ASTM C404 - Standard Specification for Aggregates for Masonry Grout.
8. ASTM C476 - Standard Specification for Grout for Masonry.
9. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.
10. ASTM C1019 - Standard Test Method for Sampling and Testing Grout.
11. ASTM E447 – Test methods for compressive strength of masonry prisms.
12. ASTM E518 – Test methods for flexural bond strength of masonry.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal requirements.

B. Samples: Submit two samples of mortar, illustrating mortar color and color range.

C. Design Data: Submit design mix when Property specification of ASTM C270 is to be used, required environmental conditions, and admixture limitations.

D. Test Reports:
1. Submit reports on mortar indicating conformance of mortar to property requirements of ASTM C270 for load bearing and non load bearing masonry and test and evaluation reports to ASTM C1019
2. Submit reports on grout indicating conformance of component grout materials to requirements of ASTM C476 and test and evaluation reports to ASTM C1019.

E. Manufacturer's Installation Instructions: Submit premix mortar manufacturer's installation instructions.

F. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ACI 530 and ACI 530.1.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Maintain materials and surrounding air temperature to minimum40 degrees F prior to, during, and 48 hours after completion of masonry work.

C. Maintain materials and surrounding air temperature to maximum 100 degrees F prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.1 MORTAR AND MASONRY GROUT

A. Manufacturers:
1. Holnam Inc.
2. Essroc Corp.
3. Lehigh Portland Cement.
4. Substitutions: Section 01 60 00 - Product Requirements, Permitted.

2.2 COMPONENTS

A. Portland Cement: ASTM C150, Type I gray color.

B. Mortar Aggregate: ASTM C144, standard masonry type.

C. Hydrated Lime: ASTM C206, Type S.

D. Grout Aggregate: fine.

E. Water: Clean and potable.

2.3 MIXES

A. Mortar Mixes:
1. Mortar for Brick and CSMU Veneer: ASTM 27, Type N using Proportion specification.
a. Type N Mortar: 1 Portland Cement, 1 Lime, 6 Sand.
b. Color chosen by Architect.

B. Mortar Mixing:
1. Thoroughly mix mortar ingredients in accordance with ASTM C270 in quantities needed for immediate use.
2. Achieve uniformly damp sand immediately before mixing process.
3. Add admixtures to achieve uniformity of mix and coloration.
4. Re-temper only within two hours of mixing.
5. Do not use anti freeze compounds unless approved in writing by Architect.

C. Grout Mixes:
1. Thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476.
a. Slump: 8 to 11 inches
b. Compressive Strength: 2000 PSI minimum.
c. Lean Grout: 1 part Portland Cement, 3 parts masonry sand.
2. Do not use anti freeze compounds unless approved in writing by Architect.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 – Administrative Requirements: Coordination and project conditions.

B. Request inspection of spaces to be grouted 24 hours prior to grouting.

3.2 PREPARATION

A. Plug clean-out holes with block masonry units. Brace masonry for wet grout pressure.

B. Remove all debris from space to be occupied by grout prior to placement.

3.3 INSTALLATION

A. Install mortar and grout to requirements of the specific masonry sections.

B. Work grout into masonry cores and cavities to eliminate voids.

C. Cores of masonry to be grouted using low lift grouting techniques. High lift grouting (single lift full height wall) is not permitted unless approved by Architect prior to execution.
   1. Low lift grouting limits.
      a. Individual lifts of grout not to exceed 48 inches or six cmu courses.
   2. When grouting wall using multiple lifts, new lifts must be consolidated into prior lift using a low velocity vibrator with a ¾ inch head. Activate vibrator for one or two seconds in each grouted cell. Maximum combined height using multiple lift technique of wall per day is 72 inches.

D. Do not displace reinforcement while placing grout.

E. Remove excess mortar from grout spaces.

3.4 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing and Inspection.

B. Provide free access to Work and cooperate with appointed firm.

C. Independent testing agency to do the following:
   1. Perform continuous inspection of:
      a. Grout placement to ensure compliance with code and construction document provisions.
      b. Preparation of any required grout specimens, mortar specimens and or prisms shall be observed.
         1. Grout Compression Test Specimen: ASTM C1019; one set of 4 standard cubes for each compressive strength test. Mold and store cubes for laboratory-cured test specimens except when field-cure test specimens are required.
         2. Grout Compressive Strength Tests: ASTM C1019; one set per week plus additional sets for each 50 cu. yds. more than the first 25 cu. yds. of each mortar and grout placed in any week; one specimen retained in reserve for later testing if required.
         3. Mortar Compression Test Specimen: ASTM C780; one of 4 standard cubes for each compressive strength test. Mold and store cubes for laboratory-cured test specimens except when field-cure test specimens are required.
         4. Mortar Compressive Strength Tests: ASTM C780; one set per week plus additional sets for each 50 cu. yds. more than the first 25 cu. yds. of each mortar placed in any week; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
   2. Perform periodic inspections of:
      a. Proportions of site prepared mortar.
      b. The following prior to grouting:

1. Grout space is clear of mortar.
2. Placement of reinforcement and connections.
3. Proportions of site prepared grout.

3. Issue inspection reports to the building official and to the Registered Design Professional in responsible charge.

D. Air Content: ASTM C231 pressure method for mortar; one per week of each type of mortar; one test for each set of test cylinders.

E. Mortar Temperature: Test hourly when air temperature is 40 degrees F and below, When 80 degrees F and above, and each time a set of compression test specimens is made.

F. Strength level will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.

G. Test and evaluate grout in accordance with ASTM C1019.

H. Test mortar C1072, E447, and E518.

END OF SECTION

SECTION 04 20 00

UNIT MASONRY ASSEMBLIES

PART 1 GENERAL

1. SUMMARY

A. Section Includes:
1. Concrete masonry units.
2. Brick units.
3. Sill Units
4. Precast Lintels.
5. Reinforcement, anchorage, and accessories.
6. Flashing.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 03 20 00 - Concrete Reinforcing.
5. Section 04 05 03 - Masonry Mortar and Grout: Mortar and grout.
6. Section 07 90 00 - Joint Sealers: Rod and sealant at control and expansion joints.
7. Section 08 13 14 - Standard Steel Frames.

1.2 REFERENCES

A. ASTM International:
1. ASTM A82 - Cold-Drawn Steel Wire for Concrete Reinforcement.
2. ASTM A123/A123M - Zinc (Hot Dipped Galvanized) Coatings on Iron and Steel Products.
3. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
4. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
5. ASTM C55 - Standard Specification for Concrete Brick.
6. ASTM C90 - Standard Specification for Load-Bearing Concrete Masonry Units.
7. ASTM C145 - Solid Load-Bearing Concrete Masonry Units.

B. American Concrete Institute
1. ACI 530 - Building Code Requirements for Masonry Structures.
2. ACI530.1 - Specifications for Masonry Construction.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

C. Perform Work in accordance with ACI 530 Building Code Requirements for Masonry Structures and ACI 530.1 Specification for Masonry Structures.

1.4 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum five years documented experience.

1.5 MOCKUP

A. Section 01 40 00 - Quality Requirements: Mockup requirements.

B. Construct a masonry wall into a panel sized 4 feet long by 4 feet high, which includes mortar and accessories. Contact Architect for layout requirements.

C. Locate where directed.

D. Mockup may not remain as part of the Work.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum five years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 016 00 - Product Requirements.

B. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.

C. Maintain materials and surrounding air temperature to maximum 100 degrees F prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.1 UNIT MASONRY ASSEMBLIES

A. Hollow Non Load Bearing Concrete Masonry Units (CMU): ASTM C90, Grade N-1, normal weight 120-135pcf density. Compressive strength of 2200 psi when tested in accordance with ASTM C140.

B. Concrete Masonry Unit Size and Shape: Dimensions of widths, by nominal heights by nominal lengths 3/8 inch less than nominal. Furnish special units for 90 degree corners, bond beams, and lintels.

C. Precast Concrete Lintels
1. Size as shown on Drawings.

2.2 FACING BRICK

A. Facing Brick: Machine made modular
1. Styles
a. Cushwa #30 Rose Full Range
b. Cushwa #237 Cambridge

2.3 SILLS

A. Nitterhouse:
1. Legacy Stone
a. Style: S-11
b. color: LS 105

2.4 ACCENT BANDS

A. Nitterhouse:
1. Legacy Stone
a. Style: LS 105

2.5 REINFORCEMENT AND ANCHORAGE

A. Single Wythe Joint Reinforcement: Truss type; steel wire, hot dip galvanized to ASTM A123/A123M Class B2 after fabrication, cold drawn steel wire conforming to ASTM A82.
1. Manufacturers:
a. Hohmann & Barnard - #120 Truss mesh or equal.

B. Reinforcing Steel: ASTM A615/A615M, 60 ksi yield grade, plain deformed billet bars, uncoated finish.

C. Brick Ties.
1. Hohmann & Barnard
a. VBT-Vee byna tie.
b. DW10HS anchor

2.6 MORTAR AND GROUT

A. Mortar and Grout: As specified in Section 04 05 03.

2.7 ACCESSORIES

A. Cleaning Solution: Non-Acidic, not harmful to masonry work or adjacent materials.

B. Joint Filler: Closed cell polyurethane foam impregnated with polybuthylene; oversized to twice the width of the joint; self expanding; Perm-A-Barrier Joint Filler - backer rod as manufactured by W.R. Grace and Co.

2.8 FLASHINGS

A. Total Flash Drainage System by Mortar Net USA, Ltd. (800-664-6638)

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify field conditions are acceptable and are ready to receive work.

C. Verify items provided by other sections of work are properly sized and located.

D. Verify built-in items are in proper location, and ready for roughing into masonry work.

3.2 PREPARATION

A. Furnish temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent support.

3.3 INSTALLATION

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form bed and head joints of uniform thickness.

C. Coursing of Concrete Masonry Units:
1. Bond: Running.
2. Coursing: One unit and one mortar joint to equal 8 inches.
3. Mortar Joints: Concave where exposed. Flush joints where concealed.

D. Coursing of Brick Units:

1. Bond: Running.
2. Mortar Joints: Concave.

3.4 PLACING AND BONDING

A. Lay solid masonry units in full bed of mortar, with full head joints.

B. Buttering corners of joints or excessive furrowing of mortar joints are not permitted.

C. Remove excess mortar as work progresses.

D. Interlock external corners and pilasters.

E. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment is required, remove mortar and replace.

F. Perform job site cutting of masonry units with proper tools to assure straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

G. Isolate masonry from vertical structural framing members with a control joint.

H. Isolate top of masonry from horizontal structural framing members and slabs or decks with compressible joint filler.

I. Top of masonry wall shall be kept covered with a waterproof membrane when work is not in progress.

3.5 JOINT REINFORCEMENT AND ANCHORAGE-SINGLE WYTHE MASONRY

A. Install horizontal joint reinforcement 16 inches oc.

B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.

C. Place joint reinforcement continuous in first joint below top of walls.

D. Lap joint reinforcement ends minimum 6 inches.

E. Reinforce joint corners and T-intersections with prefabricated corners and tees.

3.6 CAVITY WALL DRAINAGE - TOTAL FLASH SYSTEM

A. Install according to manufacturer’s instructions.

3.7 MASONRY FLASHINGS

A. Extend flashings where indicated on Drawings.

B. Turn flashing up minimum 8 inches and bed into mortar joint of masonry or seal to sheathing.

C. Lap end joints minimum 6 inches and seal watertight.

D. Turn flashing, fold, and seal at corners, bends, and interruptions. Provide end dams at all head and sill flashing, typical.

3.8 LINTELS

A. Install loose steel lintels over openings.

B. Maintain minimum 8 inch bearing on each side of opening.

3.9 CONTROL JOINTS

A. Do not continue horizontal joint reinforcement through control joints.

B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.

3.10 CUTTING AND FITTING

A. Cut and fit for chases, pipes, conduit, sleeves, and grounds. Coordinate with other sections of work to provide correct size, shape, and location.

B. Obtain Architect's approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

C. All cutting of masonry must be done with masonry saw or core drill.

3.11 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation from Unit to Adjacent Unit: 1/16 inch.

C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.

D. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.

E. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.

F. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft.

G. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

3.12 CLEANING

A. Section 01 70 00 - Execution Requirements: Final cleaning.

B. Remove excess mortar and mortar smears as work progresses.

C. Replace defective mortar. Match adjacent work.

D. Clean soiled surfaces with cleaning solution.

E. Use non-metallic tools in cleaning operations.

3.13 PROTECTION OF FINISHED WORK

A. Section 01 50 00 - Temporary Facilities and Controls: Protection of finished Work.

END OF SECTION

SECTION 05 12 00

STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Structural shapes.
2. Hollow structural sections.
3. Fasteners, connectors, and anchors.
4. Grout.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements
2. Section 01 33 00 - Submittal Procedures
3. Section 01 40 00 - Quality Requirements
4. Section 04 05 03 - Masonry Mortaring and Grouting
5. Section 04 20 00 - Unit Masonry Assemblies.
6. Section 09 90 00 - Painting and Coating.
7.

1.2 REFERENCES

A. American Institute of Steel Construction:
1. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges.
2. AISC 341 - Seismic Provisions for Structural Steel Buildings.
3. AISC 360 - Specification for Structural Steel Buildings.

B. American Society of Civil Engineers:
1. ASCE 19 - Standard Applications of Steel Cables for Buildings.

C. ASTM International:
1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
2. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
3. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.
4. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
5. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
6. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts.
7. ASTM A992/A992M - Standard Specification for Structural Steel Shapes.

D. American Welding Society:

1. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination.
2. AWS D1.1 - Structural Welding Code - Steel.

E. Research Council on Structural Connections:
1. RCSC - Specification for Structural Joints Using ASTM A325 or ASTM A490 Bolts.

F. SSPC: The Society for Protective Coatings:
1. SSPC - Steel Structures Painting Manual.
2. SSPC Paint 15 - Steel Joist Shop Paint.
3. SSPC Paint 20 - Zinc-Rich Primers (Type I - Inorganic and Type II - Organic).
4. SSPC SP 2 - Power Tool Cleaning.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings:
1. Indicate profiles, sizes, spacing, locations of structural members, and fasteners.
2. Connections.
3. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths.

C. Manufacturer's Mill Certificate: Certify products meet or exceed specified requirements.

D. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within previous 12 months.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with the following:
1. Structural Steel: AISC 303, ASIC 314 and AISC 360.
2. High Strength Bolted Connections: RCSC Specification for Structural Joints Using ASTM A 325 or A 490 Bolts.

1.5 QUALIFICATIONS

A. Fabricator: Company specializing in performing Work of this section with minimum five years experience with the following current AISC Certification:
1. Standard Steel Building Structures (STD).

B. Erector: Company specializing in performing Work of this section with minimum five years experience.

C. Shop Painter: Company specializing in performing Work of this section with minimum five years experience.

D. Welders and Welding Procedures: AWS D1.1 qualified within previous 12 months.

1.6 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

PART 2 PRODUCTS

2.1 MATERIALS

A. Structural Steel Members other than W shapes: ASTM A36/A36M.

B. Structural Tubing: ASTM A500, Grade B.

C. Pipe: ASTM A53, Grade B.

D. Shear Stud Connectors: ASTM A449. Forged steel, headed, unfinished.

E. Bolts, Nuts, and Washers: ASTM A307, ASTM A325/A325M bolts, ASTM A563/A563M nuts.

F. Anchor Bolts: ASTM A307.

G. Welding Materials: AWS D1.1; type required for materials being welded.

H. Grout: Non-shrink type, pre-mixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing additives, capable of developing minimum compressive strength of 7,000 psi at 28 days.

I. Shop and Touch-Up Primer: SSPC 15, Type 1, red oxide.

2.2 FABRICATION

A. Continuously seal joined members by continuous welds. Grind exposed welds smooth.

B. Fabricate connections for bolt, nut, and washer connectors.

2.3 FINISH

A. Prepare structural component surfaces in accordance with SSPC SP2.

B. Shop prime structural steel members.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

3.2 ERECTION

A. Allow for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in alignment until completion of erection and installation of permanent bracing. Attach columns to anchor bolts using double nut method. Leveling plates not allowed.

B. Field weld components indicated on Drawings.

C. Do not field cut or alter structural members without approval of Architect.

D. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

E. Grout under base plates in accordance with manufacturer's recommendations. Trowel grouted surface smooth, splay neatly to 45 degrees.

3.3 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

C. Maximum Offset From Alignment: 1/4 inch.

3.4 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements.

B. Independent Testing Agency to perform the following:
   1. Perform continuous inspections of:
      a. Slip-critical high strength bolting.
      b. Complete and partial penetrating groove welds.
      c. Multi-pass fillet welds.
      d. Single-pass fillet welds > 5/16 inch
   2. Perform periodic inspection of:
      a. Material verification of high-strength bolts, nuts, and washers.
      b. Bearing-type bolt connections.
      c. Slip-critical high strength bolting if installed using turn-of-nut method with matchmarking techniques, direct tension indicator method or twist-off bolts method.
      d. Single-pass fillet welds < 5/16 inch.

e. Steel frame joint details for compliance with approved construction documents.

3. Issue inspection reports to the building official and to the Registered Design Professional in responsible charge.

END OF SECTION

SECTION 05 50 00

METAL FABRICATIONS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes shop fabricated metal items.
   1. Ledge and shelf angles.
   2. Structural supports for miscellaneous attachments.

B. Related Sections:
   1. Section 01 30 00 - Administrative Requirements.
   2. Section 01 33 00 - Submittal Procedures.
   3. Section 01 40 00 - Quality Requirements.
   4. Section 04 20 00 - Unit Masonry Assemblies.

1.2 REFERENCES

A. ASTM International:
   1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
   2. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
   3. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.

B. American Welding Society:
   1. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination.
   2. AWS D1.1 - Structural Welding Code - Steel.

C. SSPC: The Society for Protective Coatings:
   1. SSPC - Steel Structures Painting Manual.
   2. SSPC Paint 15 - Steel Shop Paint.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures : Submittal requirements.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.

1.4 QUALITY ASSURANCE

A. Finish joints in accordance with NOMMA Guideline 1.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Accept metal fabrications on site in labeled shipments. Inspect for damage.

C. Protect metal fabrications from damage by exposure to weather.

1.6 FIELD MEASUREMENTS

A. Verify field measurements are as indicated on shop drawings

PART 2 PRODUCTS

2.1 MATERIALS - STEEL

A. Steel Sections: ASTM A36/A36M.

B. Steel Plate: ASTM A36/A36M.

C. Hollow Structural Sections: ASTM A500/A500M, Grade B.

D. Steel Pipe: ASTM A53/A53M, Grade B

E. Welding Materials: AWS D1.1; type required for materials being welded.

F. Shop Primer: SSPC Paint 15, Type 1, red oxide.

G. Touch-Up Primer: Match shop primer.

H. Welding Materials: AWS D1.6; type required for materials being welded.

2.2 LEDGE AND SHELF ANGLES

A. Ledge and Shelf Angles, Channels and Plates Not Attached to Structural Framing: For support joists and masonry, prime paint, one coat.

2.3 FABRICATION

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Continuously seal joined members by continuous welds.

D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius unless noted otherwise on drawings.

E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.4 FACTORY APPLIED FINISHES - STEEL

A. Prepare surfaces to be primed in accordance with SSPC SP 2.

B. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

C. Do not prime surfaces in direct contact with concrete or where field welding is required.

D. Prime paint items with one coat.

E. Finish coat items exposed to public

2.5 FABRICATION TOLERANCES

A. Squareness: 1/8 inch maximum difference in diagonal measurements.

B. Maximum Offset Between Faces: 1/16 inch.

C. Maximum Misalignment of Adjacent Members: 1/16 inch

D. Maximum Bow: 1/8 inch in 48 inches.

E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify field conditions are acceptable and are ready to receive Work.

3.2 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

3.3 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Make provisions for erection stresses. Install temporary bracing to maintain alignment, until permanent bracing and attachments are installed.

C. Field weld components indicated on Drawings.

D. Perform field welding in accordance with AWS D1.1.

E. Obtain approval of Architect/Engineer prior to site cutting or making adjustments not scheduled.

F. After erection, touch up welds, abrasions, and damaged finishes with prime paint or galvanizing repair paint to match shop finishes.

3.4 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum variation from plumb: 1/4 inch per story or for every 12 ft in height whichever is greater, non-cumulative.

C. Maximum offset From alignment: 1/4 inch

D. Maximum out-of-position: 1/4 inch.

3.5 FIELD QUALITY CONTROL

A. Section 01 40 00 – Quality Requirements.

B. Independent Testing Agency to perform the following:
   1. Perform continuous inspections of:
      a) Slip-critical high strength bolting.
      b) Complete and partial penetrating groove welds.
      c) Multi-pass fillet welds.
      d) Single-pass fillet welds > 5/16 inch.
   2. Perform periodic inspection of:
      a) Material verification of high-strength bolts, nuts, and washers.
      b) Bearing-type bolt connections.
      c) Slip-critical high strength bolting if installed using turn-of-nut method with match marking techniques, direct tension indicator method or twist-off bolts method.
      d) Single-pass fillet welds < 5/16 inch
      e) Steel frame joint details for compliance with approved construction documents.

3. Issue inspection reports to the building official and to the Registered Design Profession in responsible charge.

END OF SECTION

SECTION 05 52 00

METAL RAILINGS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes:
   1. Steel fittings and handrails.

B. Related Sections:
   1. Section 01 30 00 - Administrative Requirements.
   2. Section 01 33 00 - Submittal Procedures.
   3. Section 01 40 00 - Quality Requirements.
   4. Section 06 10 00 - Rough Carpentry.
   5. Section 06 10 53 - Miscellaneous Rough Carpentry.
   6. Section 09 90 00 - Painting and Coating: Paint finish.

1.2 REFERENCES

A. American National Standards Institute:
   1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.

B. ASTM International:
   1. ASTM A36/A36M - Specification for Carbon Structural Steel.
   2. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
   3. ASTM A283/A283M - Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
   4. ASTM A325/A325M - Specification for High Strength Bolts for Structural Steel Joints
   5. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
   6. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings.
   7. ASTM E985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings.

C. American Welding Service:
   1. AWS A2.0 - Standard Welding Symbols
   2. AWS D1.1 - Structural Welding Code

D. SSPC: The Society for Protective Coatings:
   1. SSPC Paint 15 - Type 1, red oxide.

1.3 DESIGN REQUIREMENTS

A. Railing assembly, wall rails, and attachments to resist lateral force of 250 lbs at any point without damage or permanent set. Test in accordance with ASTM E935.

B. All railing construction must be usable by disabled persons as indicated by requirements in ANSI A117.1.

1.4 SUBMITTALS - STEEL HANDRAILS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.

1.5 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Deliver materials to the job site in good condition and properly protected against damage to finished surfaces.

C. Keep handling on site to a minimum and exercise care to avoid damage to finishes of material.

PART 2 PRODUCTS

2.1 STEEL RAILING SYSTEM COMPONENTS

A. Steel Sections: ASTM A36 Tubing: ASTM A500, Grade B.

B. Pipe: ASTM A53/A53M, Grade B Schedule 40

C. Plates: ASTM A283.

D. Bolts, Nuts, Washers, ASTM A325.

E. Fittings: Elbows, T-shapes, wall brackets, escutcheons; cast steel.

F. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.

G. Shop Primer: SSPC Paint 15, Type 1, red oxide.

H. Touch-Up Primer: Match shop primer.

I. Handrail Brackets.
1. Wall Brackets:
a. Model No. MB3250W by Wagner Co.

2.2 FABRICATION

A. Fit and shop assemble components in largest practical sizes for delivery to site.

B. Fabricate components with joints tightly fitted and secured. Furnish spigots and sleeves to accommodate site assembly and installation.

C. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

E. Interior Components: Continuously seal joined pieces by continuous welds.

F. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

2.3 FINISH

A. Shop prime and finish paint per Section 09 90 00.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

3.3 INSTALLATION STEEL RAILING

A. Install components plumb and level, accurately fitted, free from distortion or defects.

B. Field weld anchors as indicated on shop drawings. Touch-up welds with primer. Grind welds smooth.

C. Conceal bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

D. Obtain Architect's approval prior to site cutting or creating adjustments not scheduled.

3.4 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

C. Maximum Offset From Alignment: ¼ inch.

D. Maximum Out-of-Position: ¼ inch.

3.5 FIELD QUALITY CONTROL FOR STEEL RAILING

A. Section 01 40 00 – Quality Control.

B. Independent Testing Agency to perform the following:
1. Perform continuous inspections of:
   a. Slip-critical high strength bolting.
   b. Complete and partial penetrating groove welds.
   c. Multi-pass fillet welds.
   d. Single-pass fillet welds > 5/16 inch
2. Perform periodic inspection of:
   a. Material verification of high-strength bolts, nuts, and washers.
   b. Bearing-type bolt connections.
   c. Slip-critical high strength bolting if installed using turn-of-nut method with matchmarking techniques, direct tension indicator method or twist-off bolts method.
   d. Single-pass fillet welds < 5/16 inch
   e. Steel frame joint details for compliance with approved construction documents.

C. Issue inspection reports to the building official and to the Registered Design Professional in responsible charge.

3.6 ADJUSTING

A. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint and paint exposed areas with same material.
Clean by washing thoroughly with clean water and soap, following by rinsing with clean water.

3.7 PROTECTION

A. Protect finishes of railing systems and handrails from damage during construction period by use of temporary protective coverings approved by railing manufacturer. Remove protective covering at time of Substantial Completion.

1. Restore finishes damaged during installation and construction period so that no evidence remains of correction work. Return items that cannot be refinished in the field to the shop. Make required alterations and refinish entire unit or provide new units.

END OF SECTION

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Preservative treatment of wood.
2. Miscellaneous framing and sheathing.
3. Telephone and electrical panel back boards.
4. Fire retardant treated framing and sheathing.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements
2. Section 01 33 00 - Submittal Procedures
3. Section 01 40 00 - Quality Requirements
4. Section 05 52 00 - Metal Railings.
5. Section 06 20 00 - Finish Carpentry
6. Section 07 21 16 - Blanket Insulation.
7. Section 07 24 00 - Exterior Insulation and Finish System.
8. Section 07 53 03 - Elastomeric Membrane Roofing; Fully-Adhered
9. Section 07 54 00 - Snow Guards.
10. Section 08 12 14 - Standard Steel Frames.
11. Section 08 41 13 - Aluminum Framed Entrances and Storefronts.
12. Section 09 21 16 - Gypsum Board Assemblies: Gypsum sheathing.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI A135.4 - Basic Hardboard
2. ANSI A208.1 - Mat-Formed Wood Particleboard

B. American Wood-Preservers' Association:
1. AWPA M4 - Standard for the Care of Preservative-Treated Wood Products
2. AWPA U1 - Use Category System: User Specification for Treated Wood.

C. ASTM International:
1. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
2. ASTM B695 - Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.
3. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
4. ASTM C1280 - Standard Specification for Application of Gypsum Sheathing.
5. ASTM C1396/C1396M - Standard Specification for Gypsum Board.

6. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
7. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

D. National Lumber Grades Authority:
1. NLGA - Standard Grading Rules for Canadian Lumber.

E. Northeastern Lumber Manufacturers Association:
1. NELMA - Standard Grading Rules for Northeastern Lumber.

F. Southern Pine Inspection Bureau:
1. SPIB - Standard Grading Rules for Southern Pine Lumber.

G. U.S. Department of Commerce National Institute of Standards and Technology:
1. DOC PS 1 - Construction and Industrial Plywood.
2. DOC PS 2 - Performance Standard for Wood-Based Structural-Use Panels.
3. DOC PS 20 - American Softwood Lumber Standard.

H. West Coast Lumber Inspection Bureau:
1. WCLIB - Standard Grading Rules for West Coast Lumber.

I. Western Wood Products Association:
1. WWPA G-5 - Western Lumber Grading Rules

J. Southern Pine Inspection Bureau
1. SPIB – Standard grading rules for southern yellow pine.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures

B. Manufacturer's Certificate: Certify Products meet or exceed specified requirements

1.4 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

PART 2 PRODUCTS

2.1 LUMBER MATERIALS

A. Lumber Grading Rules: SPIB.

B. Treated Framing: SYP species, No. 2 grade, 19 percent maximum moisture content after pressure preservative treat.

C. Miscellaneous Framing:

D. SPF, No. 2, 19 percent maximum moisture content.

E. Fire retardant treated framing:
1. SPF, No. 2, 19 percent maximum moisture content.

2.2 SHEATHING MATERIALS

A. Telephone and Electrical Panel Boards: ¾ inch Plywood.

2.3 ACCESSORIES

B. Fasteners and Anchors:
1. General: Unless noted otherwise provide fasteners of size and type indicated that comply with requirements specified in this article by the authority having jurisdiction and International Building Code.
2. Fasteners: ASTM A153/A153M, hot dipped galvanized or ASTM B695, Class 55 mechanically galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.
3. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
4. Anchors: Toggle bolt type for anchorage to hollow masonry. Expansion shield and lag bolt type for anchorage to solid masonry or concrete. Bolt cast into masonry bond beam for anchorages to steel.

2.3 FACTORY WOOD TREATMENT

A. Wood Preservative (Pressure Treatment): AWPA U1, Commodity Specification A-Sawn Products or F-Wood Composites using water-borne preservative.

B. Wood Preservative (Surface Application): Clear type.

C. Moisture Content After Treatment: Kiln dried (KDAT)
1. Lumber: Maximum 19 percent

2.4 FIRE RETARDANT PRESSURE TREATMENT OF LUMBER, PLYWOOD and OSB

A. Fire retardant treatment for wood blocking and furring, studs, joists and exterior load-bearing walls.
1. Lumber: Comply with AWPA U1 UCFA, Type A or ICC-ES ESR 2645.
2. OSB : Comply with AWPA U1, UCFA, Type A or ICC-ES ESR 2645.
3. Surface Burning Characteristics: UL FR-S rating; or flame spread and smoke developed ratings of 25 or less in a test of 30 minutes' duration in accordance with IBC section 2303.2.
4. Kiln dry after treatment to 19 percent maximum moisture content for lumber and 15 percent for plywood.

PART 3 XECUTION

3.1 GENERAL INSTALLATION INSTRUCTIONS

A. Unless noted otherwise refer to International Building Code for fastening instruction.

3.2 SITE APPLIED WOOD TREATMENT

A. Brush apply two coats of preservative treatment on wood in contact with cementitious materials roofing and related metal flashings.

B. Treat site-sawn cuts. Apply preservative to site-sawn cuts in accordance with AWPA M4.

C. Allow preservative to dry prior to erecting members.

3.3 TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Framing Members: 1/4 inch from indicated position, maximum.

END OF SECTION

SECTION 06 10 53

MISCELLANEOUS ROUGH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

A. Section includes roof curbs, and perimeter nailers; blocking in wall and roof openings; wood furring and grounds; concealed wood blocking for support of toilet and bath accessories, wall cabinets, wood trim; telephone and electrical panel back boards, kitchen equipment and other items needing support, and preservative treatment of wood.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 05 52 00 - Metal Railings.
5. Section 06 20 00 - Finish Carpentry.
6. Section 07 53 03 - Elastomeric Membrane Roofing - Fully Adhered.
7. Section 08 71 00 - Door Hardware: Door Stops.
8. Section 09 21 16 - Gypsum Board Assemblies.
9. Section 10 28 00 - Toilet, Bath, and Laundry Accessories.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI A208.1 - Mat-Formed Wood Particleboard.

B. American Wood-Preservers' Association:
1. AWPA M4 - Standard for the Care of Preservative-Treated Wood Products.
2. AWPA U1 - Use Category System: User Specification for Treated Wood.

C. ASTM International:
1. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
2. ASTM B695 - Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

D. Southern Pine Inspection Bureau:
1. SPIB - Standard Grading Rules for Southern Pine Lumber.

E. U.S. Department of Commerce National Institute of Standards and Technology:
   1. DOC PS 1 - Construction and Industrial Plywood.
   2. DOC PS 20 - American Softwood Lumber Standard.

F. West Coast Lumber Inspection Bureau:
   1. WCLIB - Standard Grading Rules for West Coast Lumber.

G. Western Wood Products Association:
   1. WWPA G-5 - Western Lumber Grading Rules.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit technical data on wood preservative and fire retardant treatment materials and application instructions.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with the following:
   1. Lumber Grading Agency: Certified by DOC PS 20.
   2. Lumber: DOC PS 20.

PART 2 PRODUCTS

2.1 MATERIALS

A. Miscellaneous Framing: SPF, No. 2, 19 percent maximum moisture content.

B. Miscellaneous Treated Framing: SYP, No. 2, 19 percent maximum moisture content after treatment.

C. Plywood: APA/EWA Rated Sheathing; Exposure Durability Exterior sanded.

D. Lumber Grading Rules: SPIB, WWPA G-5. As applies

2.2 ACCESSORIES

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

2.3 FACTORY WOOD TREATMENT

A. Wood Preservative (Pressure Treatment): AWPA U1, Commodity Specification A-Sawn Products or F-Wood Composites using water-borne preservative.

B. Wood Preservative (Surface Application): Clear.

C. Moisture Content after Treatment: Kiln dried (KDAT).
1. Lumber: Maximum 19 percent

D. Fire retardant treated framing:
1. SPF, No. 2, 19 percent maximum moisture content.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify substrate conditions are ready to receive blocking, curbing and framing.

3.2 PREPARATION

A. Coordinate placement of blocking, curbing and framing items.

3.3 INSTALLATION

A. Set members level and plumb, in correct position.

B. Place horizontal members, crown side up.

C. Construct curb members of solid wood sections.

D. Curb roof openings except where prefabricated curbs are provided. Form corners by alternating lapping side members.

E. Coordinate curb installation with installation of decking and support of deck openings, parapet construction, and roofing system.

F. Space framing and furring 16 inches oc.

G. Install telephone and electrical panel back boards with plywood sheathing material where required. Size back boards 12 inches beyond size of electrical and telephone panel.

3.4 SITE APPLIED WOOD TREATMENT

A. Brush apply two coats of preservative treatment on wood in contact with cementitious materials roofing and related metal flashings.

B. Treat site-sawn cuts. Apply preservative to site-sawn cuts in accordance with AWPA M4.

C. Allow preservative to dry prior to erecting members.

END OF SECTION

SECTION 06 20 00

FINISH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

A. Section includes finish carpentry items; moldings, hardware and attachment accessories.

B. Related Sections:
1. Section 01 20 00 - Price and Payment Procedures: Add Alternate No. 1. Provide wood finished wall in Conference Room 146, Corridor 103, 127 corridor into 128 vestibule as shown on Drawings.
2. Section 01 30 00 – Administrative Requirements
3. Section 01 33 00 – Submittal Procedures.
4. Section 01 40 00 – Quality Requirements.
5. Section 06 10 00 – Rough Carpentry.
6. Section 06 10 53 - Miscellaneous Rough Carpentry: Grounds and support framing.
7. Section 07 90 00 - Joint Protection.
8. Section 08 14 16 - Flush Wood Doors.
8. Section 09 90 00 - Painting and Coating: Painting and finishing of finish carpentry items.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI A135.4 - Basic Hardboard.
2. ANSI A156.9 - Cabinet Hardware.
3. ANSI A208.1 - Mat-Formed Wood Particleboard.

B. APA-The Engineered Wood Association:
1. APA/EWA PS 1 - Voluntary Product Standard for Construction and Industrial Plywood.

C. ASTM International:
1. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
2. ASTM B695 - Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
3. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

D. Architectural Woodwork Institute:
1. AWI - Quality Standards Illustrated.

E. Federal Specification Unit:
   1. FS A-A-1936 - Adhesive, Contact, Neoprene Rubber.

F. Hardwood Plywood and Veneer Association:
   1. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood.

G. National Electrical Manufacturers Association:
   1. NEMA LD 3 - High Pressure Decorative Laminates.

H. U.S. Department of Commerce National Institute of Standards and Technology:
   1. DOC PS 1 - Construction and Industrial Plywood.
   2. DOC PS 20 - American Softwood Lumber Standard.

I. Woodwork Institute:
   1. WI - Manual of Millwork.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details and accessories.

C. Submit samples of laminates.

1.4 QUALITY ASSURANCE

A. Perform work in accordance with AWI (Architectural Woodwork Institute) Architectural Woodwork Quality Standards Illustrated, Custom Grade

1.5 QUALIFICATIONS

A. Fabricator: Company specializing in fabricating Products specified in this section with minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Protect work from moisture damage.

1.7 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.8 SEQUENCING

A. Section 01 10 00 - Summary; Work sequence.

B. Sequence work to ensure utility connections are achieved in orderly and expeditious manner.

1.9 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate work with plumbing rough-in, electrical rough-in, installation of associated and adjacent components.

PART 2 PRODUCTS

2.1 COMPONENTS

A. Lumber: 6 percent moisture content.
1. Species of wood for stain: Select white birch
2. Cherry Stain and Clearcoat.

B. Wood veneer wall in Conference Room 146, Corridor 103, 127 corridor into 128.
1. Skip sawn hardwood as chosen by Architect.
a. KD Woods Company
b. Factory natural oil prefinished

2.2 SHEET MATERIALS

A. Plywood to receive plastic laminate shall be APA A-B, interior for exposed surfaces; for semi-exposed surfaces, provide APA A-D, interior.

B. Plywood for exposed stained millwork shall be APA, Exposure 1, Grade 1, “A” face for exposed surfaces; Birch plain sliced select, minimum thickness 1/50 inch.

C. High Pressure Decorative Laminate: NEMA LD 3, GP50 for horizontal surfaces, GP28 for vertical surfaces, CL20 for cabinet liner surfaces, surface texture as selected.

D. Wood Particleboard: ANSI A208.1 Type 1; composed of wood chips or sawdust, medium density, made with water resistant adhesive; sanded faces.
1. Interior Composite Wood Products: Contain no added urea-formaldehyde resins.

E. Hardboard: AHA A135.4; Pressed wood fiber with resin binder, tempered grade, 1/4 inch thick.

2.3 ACCESSORIES

A. Adhesive for High Pressure Decorative Laminates: Type recommended by laminate manufacturer to suit application.

B. Fasteners and Anchors:
1. Fasteners: ASTM A153/A153M, hot dipped galvanized or ASTM B695, Class 55 mechanically galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.
2. Fasteners: Type 304 Stainless used in exterior wood construction.
3. Nails and Staples: ASTM F1667.

C. Concealed Joint Fasteners: Threaded steel.

D. Lumber for Shimming, Blocking: Softwood lumber SPF.

E. Veneer Edge : Standard wood veneer edge band matching face veneer.

F. Wood Filler: Solvent base, tinted to match surface finish color

G. Shelf Standards: Knape and Vogt, No. 80

H. Shelf Brackets: Knape and Vogt, No.180

2.4 FABRICATION

A. Fabricate to AWI Custom standards.

B. Shop assemble work for delivery to site, permitting passage through building openings.

C. Fit exposed sheet material edges with matching hardwood edging. Use one piece for full length only.

D. Cap exposed high pressure decorative laminate finish edges with material of same finish and pattern.

E. When necessary to cut and fit on site, fabricate materials with ample allowance for cutting. Furnish trim for scribing and site cutting.

F. Apply high pressure decorative laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners.

2.5 SHOP FINISHING

A. Sand work smooth and set exposed nails and screws.

B. Apply wood filler in exposed nail and screw indentations.

C. On items to receive transparent finishes, use wood filler matching surrounding surfaces and of types recommended for applied finishes.

D. Finish work in accordance with AWI - Section 1500 Factory Finishing; Custom Stained Transparent

E. Stain, seal, and varnish exposed to view surfaces.

F. Seal internal surfaces and semi-concealed surfaces.

G. Seal surfaces in contact with cementitious materials.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify adequacy of backing and support framing.

C. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.2 INSTALLATION

A. Install work in accordance with AWI Custom quality standard.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

D. Install components and trim with nails, screws, bolts with blind fasteners or adhesive.

E. Site Applied Wood Treatment:
1. Brush apply two coats of preservative treatment on wood in contact with cementitious materials and metal flashings.
2. Treat site-sawn cuts. Apply preservative to site-sawn cuts in accordance with AWPA M4.
3. Allow preservative to dry prior to erecting members.

F. Preparation For Site Finishing:
1. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
2. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

G. Closet shelving to be installed as shown on drawings.

3.3 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation from Indicated Position: 1/16 inch.

C. Maximum Offset from Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

SECTION 06 41 00

ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.1 SUMMARY

A. Section includes custom wood cabinet units; counter tops; cabinet hardware; preparation for installing utilities in cabinets.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements
4. Section 06 10 53 - Miscellaneous Rough Carpentry: Grounds and support framing.
5. Section 06 20 00 - Finish Carpentry: Related trim not specified in this section.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI A156.9 - Cabinet Hardware.
2. ANSI A208.1 - Mat-Formed Wood Particleboard.

B. Architectural Woodwork Institute:
1. AWI - Quality Standards Illustrated.

C. ASTM International:
1. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

D. Federal Specification Unit:
1. FS A-A-1936 - Adhesive, Contact, Neoprene Rubber.

E. Hardwood Plywood and Veneer Association:
1. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

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

C. Product Data: Submit data for hardware accessories.

D. Samples:
1. Submit two, 8 x 10 inch size samples, illustrating cabinet finish .
2. Submit two, 8 x 10 inch size samples, illustrating counter top finish .
3. Submit samples of drawer pulls, hinges, illustrating hardware finish and style.

1.4 QUALITY ASSURANCE

A. Perform work in accordance with AWI (Architectural Woodwork Institute) Architectural Woodwork Quality Standards Illustrated, Custom.

1.5 QUALIFICATIONS

A. Fabricator: Company specializing in performing Work of this section with minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Protect units from moisture damage.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. During and after installation of Work of this section, maintain same temperature and humidity conditions in building spaces as will occur after occupancy.

1.8 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

PART 2 PRODUCTS

2.1 COMPONENTS

A. Hardwood Lumber: NHLA; AWI Premium; average moisture content of 8 percent; Species and grade as follows:
1. Cabinet Frame and trim for stain finish; Select white birch.
2. Finish: Stain and Clearcoat.

B. Hardwood Plywood: Graded in accordance with AWI with core materials of veneer, type of glue recommended for application, of quality suitable for stain finish.

C. Plywood Face Veneer: Same species as exposed lumber, unless otherwise indicated, selected for grain and color compatible with exposed solid lumber, no defects. Edgeband exposed edges with wood of same species as face veneer.

D. Particleboard: ANSI, A208.1, mat formed particle board, Grade 1-M-2, with medium density of 45pcf.

E. Hardboard: Pressed wood fiber with resin binder, tempered grade, 1/4 inch thick, smooth two sides.

F. High Pressure Decorative Laminate: NEMA LD 3, GP50, General Purpose type; color, pattern, and surface texture as selected by owner.

G. Laminate Backing Sheet: LD 3 BK20 backing grade, undecorated plastic laminate.

2.2 ACCESSORIES

A. Adhesive for High Pressure Decorative Laminates: Type recommended by laminate manufacturer to suit application.

B. Fasteners: Size and type to suit application.

C. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application.

D. Concealed Joint Fasteners: Threaded steel.

2.3 HARDWARE

A. Supports for built in shelving: No. 345 (L - Shape), manufactured by Knape and Vogt.

B. Drawer and Door Pulls:
1. Hafele Bella Italiana
   a. 108.76.733
   b. 108.76.731
2. Satin Nickel
   NOTE: Verify finish with Architect

C. Catches: No. CD 35, manufactured by Stanley.

D. Drawer Slides:
1. Knape and Vogt No. 8500 for drawers.
   a. 150 lb load minimum.
   b. Full extension

E. Hinges: Concealed.

F Door and Drawer Locks: K20 Kenstan lock with slotted strike plate.

2.4 FABRICATION

A. Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.

C. Door and Drawer Fronts: 3/4 inch thick; flush inset with face frame). Doors shall be shaker panel style and drawers shall be flat panel style.

D. When necessary to cut and fit on site, fabricate materials with ample allowance for cutting. Furnish trim for scribing and site cutting.

E. Apply high pressure decorative laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners.

F. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.

G. Mechanically fasten back splash to counter tops with steel brackets at 16 inches on center.

H. Fabricate cabinets and counter tops with cutouts for plumbing fixtures, inserts, appliances, outlet boxes, fixtures and fittings. Verify locations of cutouts from on-site dimensions. Seal cut edges.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify adequacy of backing and support framing.

C. Verify location and sizes of utility rough-in associated with work of this section.

3.2 INSTALLATION

A. Set and secure casework in place; rigid, plumb, and level.

B. Use fixture attachments in concealed locations for wall mounted components.

C. Use concealed joint fasteners to align and secure adjoining cabinet units and counter tops.

D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.

E. Secure cabinet and counter bases to floor using appropriate angles and anchorages.

F. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

3.3 ADJUSTING

A. Section 01 70 00 - Execution Requirements: Testing, adjusting and balancing.

B. Adjust moving or operating parts to function smoothly and correctly.

3.4 CLEANING

A. Section 01 70 00 - Execution Requirements: Final cleaning.

B. Clean casework, counters, shelves, hardware, fittings, and fixtures.

3.5 SCHEDULE

A. All millwork to be Custom Grade.

END OF SECTION

SECTION 06 61 16

SOLID SURFACING FABRICATIONS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes
   1. Countertops.

B. Related Sections:
   1. Section 01 30 00 - Administrative Requirements
   2. Section 01 33 00 - Submittal Procedures.
   3. Section 01 40 00 - Quality Requirements.
   4. Section 07 90 00 - Joint Protection: Perimeter sealant to adjacent construction.

1.2 REFERENCES

A. ASTM International:
   1. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. Underwriters Laboratories Inc.:
   1. UL - Fire Resistance Directory.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate dimensions, thicknesses, required clearances, tolerances, materials, colors, finishes, fabrication details, field jointing, adjacent construction, methods of support.

C. Product Data: Submit data on specified component products, electrical characteristics and connection requirements.

D. Manufacturer's Installation Instructions: Submit preparation of opening required, rough-in sizes, tolerances for item placement, temporary bracing of components.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit list of approved cleaning materials and procedures required; list of substances harmful to component materials, include instructions for stain removal, surface and gloss restoration.

1.5 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

B. Verify field measurements are as instructed by manufacturer.

1.6 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements : Product warranties and product bonds

PART 2 PRODUCTS

2.1 PLASTIC FABRICATIONS

A. Countertops
1. Chosen by Architect.

2.2 MATERIALS

A. Provide cast fabrications made of proprietary resin.

B. Adhesives and Sealants: As specified in Section 07 90 00, and as follows:
1. To adhere cast panels to gypsum wallboard, Use LN-933 Liquid Nails, Nails-No-More, or other product recommended by manufacturer.
2. For sealing cast panels at adjoining surfaces such as gypsum wallboard, use mildew resistant acrylic caulk joint sealer, such as Phenoseal Acrylic Caulk by Gibson-Homans, or other product recommended by cast panel manufacturer of a color to match panels.

2.3 FABRICATION

A. Use molds, materials, methods, and procedures that will result in proper texture and finish.

B. Fabricate to required profiles and dimensions. To the greatest extent possible, fabricate each unit as a continuous piece, without joints, and configured to minimize on-site cutting or other modifications.

C. Ease all edges and sand smooth; provide uniform gloss finish on all exposed surfaces.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Do not begin installation until substrates have been properly prepared.

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 INSTALLATION

A. General: Install in accordance with manufacturer's instructions and approved shop drawings. Install components to be plumb, level, and rigid. Neatly scribe to adjoining surfaces, and field trim as required for snug fit. Replace any component that is cracked, chipped, broken, or otherwise defective.

3.3 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation From Indicated Dimension: 1/8 inch.

C. Maximum Offset From Indicated Position: 1/8 inch.

3.4 CLEANING

A. Section 01 70 00 - Execution Requirements: Final cleaning.

B. Clean and polish fabrication surfaces in accordance with manufacturer's instructions.

3.5 MAINTENANCE MATERIALS

A. Provide maintenance materials under provisions of Section 01 70 00.

3.6 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged components before Substantial Completion.

END OF SECTION

SECTION 07 21 13

BOARD INSULATION

PART 1 GENERAL

1.1 SUMMARY

A. Section includes rigid board insulation at exterior masonry walls.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.

1.2 REFERENCES

A. ASTM International:
1. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
2. ASTM D2842 - Standard Test Method for Water Absorption of Rigid Cellular Plastics.
3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit data on product characteristics, performance criteria, limitations, adhesives.

1.4 QUALITY ASSURANCE

A. Insulation Installed in Concealed Locations Surface Burning Characteristics:
1. Foam Plastic Insulation: Maximum 75/450 flame spread/smoke developed index when tested in accordance with ASTM E84.
2. Other Insulation: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

B. Apply label from agency approved by authority having jurisdiction to identify each foam plastic insulation board.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements

B. Do not install adhesives when temperature or weather conditions are detrimental to successful installation.

1.6 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

PART 2 PRODUCTS

2.1 BOARD INSULATION

A. Polyisocyanurate Insulation: Closed cell glass fiber reinforced type, conforming to the following:
1. Board Density: 2 lb/cu ft.
2. Board Size: As required, see drawings.
3. Board Thickness: 1.5 inches.
4. Facing: Factory applied skin of aluminum foil on both faces.
5. Thermal Resistance: Aged R of 6.5 per inch.
6. Board Edges: Square edges.
7. Water Absorption: In accordance with ASTM D2842 - 0.4 percent by volume.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify substrate, adjacent materials, and insulation boards are dry and ready to receive insulation and adhesive.

C. Verify substrate surface is flat, free of honeycomb, fins, irregularities, materials or substances affecting adhesive bond.

3.2 INSTALLATION - EXTERIOR WALLS

A. Apply adhesive per manufacturer's instructions. Daub adhesive tight to protrusions.

B. Install boards on wall surface vertically. Boards to be installed horizontally at doors and windows extending to the slab.

C. Place boards in method to maximize contact bedding. Stagger end joints. Butt edges and ends tight to adjacent board and to protrusions.

D. Cut and fit insulation tight to protrusions or interruptions to insulation plane.

3.3 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution Requirements: Protecting installed construction.

B. Do not permit work to be damaged prior to covering insulation.

3.4 SCHEDULE

A. Above Grade Board Insulation: Polyisocyanurate Insulation.

END OF SECTION

SECTION 07 24 00

EXTERIOR INSULATION AND FINISH SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Exterior insulation applied to concrete masonry units
      a. Method: use Dryvit LCMD or equal by applying metal lath directly to CMU and adhering foam to applied lath. Finish EIFS per manufacturer's instructions.

B. Related Sections:
   1. Section 01 30 00 - Administrative Requirements.
   2. Section 01 33 00 - Submittal Procedures.
   3. Section 01 40 00 - Quality Requirements.

   5. Section 07 62 00 - Sheet Metal Flashing and Trim: Perimeter flashing. Head and Sill Flashing
   6. Section 07 90 00 - Joint Sealers: Sealing EIFS joints.

1.2 REFERENCES

A. ASTM International:
   1. ASTM C150 - Specification for Portland Cement.
   2. ASTM C578 - Rigid Cellular Polystyrene Thermal Insulation.
   3. ASTM C1063 - Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster.
   4. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.
   5. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

B. Exterior Insulation Manufacturing Association:
   1. EIMA (Exterior Insulation Manufacturers Association) - Guideline Specification for Exterior Insulation and Finish Systems, Class PB and Class PM.

C. National Fire Protection Association:
   1. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
   2. NFPA 259 - Standard Test Method for Potential Heat of Building Materials.
   3. NFPA 268 - Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source.

D. NFPA 285 - Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus.

E. Underwriters Laboratories, Inc.
   1. UL 723 (Underwriters Laboratories, Inc.) - Tests for Surface Burning Characteristics of Building Materials.

1.3 SYSTEM DESCRIPTION

A. Materials of This Section: Provide continuity of thermal barrier at building enclosure elements in conjunction with weather tightness, resistance to imposed wind and suction loads and water management/control drainage of system.

B. Class PB System

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Provide fabrication and installation details of system including plans, elevations, sections, details of components, joint locations, and details, penetrations locations and details, backer rod and sealant locations and details and attachment to supporting construction, job specific window jamb details

C. Product Data: Submit data on system materials, product characteristics, performance criteria, limitations, and manufacturer’s specifications.

D. Samples: 12 by 12 inch size samples illustrating coating colors and texture ranges for selection. Prepare samples using the tools and techniques intended for the actual work.

E. Manufacturer's Installation Instructions: Submit preparation required, installation techniques, jointing requirements.

F. Applicators Certification: Provide written certification from manufacturer that applicator is approved and qualified to perform work of this section.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

B. Applicator: Company specializing in performing Work of this section with minimum five years documented experience approved by manufacturer.

1.7 MOCKUP- EIFS

A. Section 01 40 00 - Quality Requirements: Requirements for mockup.

B. Construct mock-up, 8 feet long by 4 feet wide with surface finish, color, texture

C. Locate where directed.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Deliver materials to project site in manufacturer's original packaging.

C. Materials shall bear manufacturer's name, brand name, description of contents, and identifying markings in the form required by this specification. Materials not so labeled will be rejected and shall be immediately removed from the site.

D. Protect adhesives and finish materials from freezing by storing in environment recommended by manufacturer.

E. Material Safety Data Sheets shall be available for all materials.

1.9 WARRANTY

A. Manufacturer: Provide 10 year system and materials warranty.

PART 2 PRODUCTS

2.1 EXTERIOR INSULATION AND FINISH SYSTEM

A. Manufacturers: Products of the manufacturer listed below form the basis of the contract documents.
   1. Dryvit Systems, Inc.
      a. LCMD System 4.

B. Products of the following manufacturers, provided they comply with requirements of the contract documents, will be among those considered acceptable as substitutes.
   1. Corev
   2. Parex Incorporated.
   3. Syneregy.
   4. STO

C. Single-Source Responsibility:
   1. Provide only materials that are manufactured by or specially approved by system manufacturer for use in specified system.

2. When required by system manufacturer, insulation board fabricated (by other than system manufacturer) for use with this system shall be labeled as required by system manufacturer.

2.2 COMPONENTS

A. Adhesive/Base Coats: Genesis or as recommended by manufacturer, acrylic polymer based product mixed with Portland Cement in a ratio 1:1 ratio by weight.
1. Adhesive for applying foam to lath only: Primus.

B. Insulation Board: Expanded polystyrene, ASTM C578, Type 1, minimum density 0.9 pcf, square edge, R value 3.6/inch, flame spread 25 maximum.

C. Dryvit Reinforcing Mesh: Open weave, glass fiber fabric treated for compatibility with other system materials:
1. Standard mesh, 4.3 oz.

D. Expanded Metal Lath for LCMD system 4:
1. 2.5lb/sqyd galvanized furred metal mesh.

E. Dryvit Finish: 100 percent acrylic resin finish; air cured, compatible with base coat; finish color factory mixed; colors and texture - 462 almond, sandpebble.

F. Dryvit system:
1. Contact John Rohm at 717 554 4383 for technical information and installation information.
2. If other system used contact respective technical representative.

2.4 ACCESSORIES

A. Trim components, terminations and Control Joints: Manufacturer's standard.

B. Sealant Materials: See Section 07 90 00 - Joint Sealers.

C. Flashings as required by manufacturer's installation instructions.

PART 3 EXECUTION

3.1 EXAMINATION

A Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify substrate and adjacent materials are dry.

C. Verify substrate surface is flat, free of fins or irregularities.

3.2 PREPARATION

A. Protect adjacent surfaces from contamination during application of coatings.

B. Substrates shall be free of water, moisture, and frost.

3.3 INSTALLATION LCMD SYSTEM 4

A. Insulation:
1. Apply expanded metal lath per manufacturer's instructions
1. Adhere insulation in accordance with manufacturer's instructions.
2. Install boards on wall surface horizontally.
3. Place boards in method to maximize tight joints. Stagger vertical joints. Butt edges and ends tight to adjacent board and to protrusions.
4. Arrange insulation joints such that they do not coincide with sheathing joints.
5. Secure boards to substrate to achieve continuous flush insulation surface.
6. Install boards around window and door corners as recommended by the manufacturer.

B. Coating:
1. Install base coat, coating and glass fiber mesh reinforcement in accordance with manufacturer's instructions.
2. Apply base coat to a minimum thickness as required by the manufacturer and fully embed reinforcement, wrinkle free.
3. Lap reinforcement edges and ends as recommended by the manufacturer.
4. Install trim in full lengths only to minimize moisture intrusion; cut horizontal trim tight to vertical trim.
5. Install trim and control joints as recommended by the manufacturer.
6. Apply finish to a total minimum thickness as recommended by the manufacturer. Finish to a uniform texture and color.
7. Apply sealant at finish perimeter and control joints in accordance with Section 07 90 00. EIFS must be fully cured prior to sealant installation.

3.6 TOLERANCES

A. Substrate: Maximum variation from plumb: 1/4 inch in 4 feet.

B. Major vertical and horizontal lines (external corners, control or expansion joints, freestanding elements, other conspicuous lines) - maximum variation from plumb:
1. 1/4 inch in 20 feet.
2. 1/4 inch in any story.

C. Minor vertical and horizontal lines (arises and other inconspicuous lines) - maximum variation from plumb:
1. 1/4 inch in 8 feet.
2. 3/8 inch in 20 feet.
3. 3/8 inch in any story.

D. Finished surfaces - maximum variation from plane (exclusive of specified texture): 1/8 inch in 10 feet.

E. Coating material minimum and maximum thickness (exclusive of specified texture):
   1. As recommended by system Manufacturer.
   2. If a range or tolerance is not specified by system manufacturer, minimum thickness at any point shall be as recommended by system manufacturer, and maximum thickness at any point shall be 150 percent of the recommended minimum thickness; average thickness overall shall fall within the middle one-third of the minimum-to-maximum range.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution Requirements: Protecting installed construction.

B. Do not permit finish surface to become soiled or damaged.

END OF SECTION

SECTION 07 27 00

WEATHER BARRIERS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes
1. Weather barrier membrane (DuPont™ Tyvek® CommercialWrap® D)
2. Seam Tape (DuPont™ Tyvek® Tape)
3. Flashing (DuPont™ FlexWrap™, DuPont™ FlexWrap™ NF, DuPont™ StraightFlash™, DuPont™ StraightFlash™ VF, and DuPont™ Thru-Wall Flashing)
4. Fasteners

B. Related Sections
1. Section 01 30 00 - Administrative Requirements
2. Section 01 33 00 - Submittal Procedures
3. Section 01 40 00 - Quality Requirements.
4. Section 07 90 00 - Joint Sealers

1.2 REFERENCES

A. ASTM International
1. ASTM C 920; Standard Specification for Elastomeric Joint Sealants
2. ASTM C 1193; Standard Guide for Use of Joint Sealants
3. ASTM D 882; Test Method for Tensile Properties of Thin Plastic Sheeting
4. ASTM D 1117; Standard Guide for Evaluating Non-woven Fabrics
5. ASTM E 84; Test Method for Surface Burning Characteristics of Building Materials
6. ASTM E 96; Test Method for Water Vapor Transmission of Materials
7. ASTM E 1677; Specification for Air Retarder Material or System for Framed Building Walls
8. ASTM E2178; Test Method for Air Permeance of Building Materials
9. ASTM E2357; Standard Test Method for Determining Air Leakage of Air Barrier Assemblies

B. AATCC – American Association of Textile Chemists & Colorists
1. Test Method 127 Water Resistance: Hydrostatic Pressure Test
2. TAPPI
3. Test Method T-410; Grams of Paper and Paperboard (Weight per Unit Area)
4. Test Method T-460; Air Resistance of Paper (Gurley Hill Method)

1.3 SUBMITTALS

A. Refer to Section 01 33 00 Submittal Procedures

B. Product Data: Submit manufacturer current technical literature for each component.

C. Samples: Weather Barrier Membrane, minimum 8-1/2 inches by 11 inch.

D. Quality Assurance Submittals
   1. Data, Test Reports: Provide manufacturer test reports indicating product compliance with indicated requirements.
   2. Manufacturer Instructions: Provide manufacturer's written installation instructions.
   3. Manufacturer's Field Service Reports: Provide site reports from authorized field service representative, indicating observation of weather barrier assembly installation.

1.4 QUALITY ASSURANCE

A. Qualifications
   1. Installer shall have experience with installation of DuPont TM Tyvek® weather barrier assemblies under similar conditions.
   2. Installation shall be in accordance with weather barrier manufacturer's installation guidelines and recommendations.
   3. Source Limitations: Provide weather barrier and accessory materials produced by single manufacturer.

1.5 DELIVERY, STORAGE AND HANDLING

A. Refer to Section 01 60 00 Product Requirements

B. Deliver weather barrier materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Store weather barrier materials as recommended by weather barrier manufacturer.

1.6 SCHEDULING

A. Review requirements for sequencing of installation of weather barrier assembly with installation of windows, doors, louvers and flashings to provide a weather-tight barrier assembly.

B. Schedule installation of weather barrier materials and exterior cladding within nine months of weather barrier assembly installation.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. DuPont; 4417 Lancaster Pike, Chestnut Run Plaza 728, Wilmington, DE 19805; 1-800-44-TYVEK (8-9835); http://www.construction.tyvek.com

2.2 MATERIALS

A. Basis of Design: spunbonded polyolefin, non-woven, non-perforated, weather barrier is based upon DuPont™ Tyvek® CommercialWrap® D and related assembly components.

2.3 ACCESSORIES

A. Seam Tape: 3" DuPont™ Tyvek® Tape as distributed by DuPont.

B. Fasteners:
   1. Steel Frame Construction) DuPont™ Tyvek® Wrap Cap Screws,: 1-5/8 inch rust resistant screw with 2-inch diameter plastic cap fasteners.
   2. Wood Frame Construction) DuPont™ Tyvek® Wrap Caps: [#4 nails with large 1-inch plastic cap fasteners] [1-inch minimum plastic cap staple with leg length sufficient to achieve a minimum penetration of 5/8-inch into the wood stud].
   3. Masonry Construction) Masonry tap-con fasteners with DuPont™ Tyvek® Wrap Caps: 2-inch diameter plastic cap fasteners.

C. Sealants
   1. Provide sealants that comply with ASTM C 920, elastomeric polymer sealant to maintain watertight conditions.
   2. Products:
      a. DuPont™ Commercial Sealant.
      b. DuPont™ Residential Sealant
      c. Sealants recommended by the weather barrier manufacturer.

D. Adhesives:
   1. Provide adhesive recommended by weather barrier manufacturer.
   2. Products:
      a. Liquid Nails® LN-109
      b. Denso Butyl Liquid
      c. 3M High Strength 90
      d. SIA 655
      e. Adhesives recommend by the weather barrier manufacturer.

E. Primers:
   1. Provide flashing manufacturer recommended primer to assist in adhesion between substrate and flashing.
   2. Products:
      a. 3M High Strength 90
      b. Denso Butyl Spray
      c. Permagrip 105
      d. Primers recommended by the flashing manufacturer

F. Flashing
   1. DuPont™ FlexWrap™: Flexible membrane flashing materials for window openings and penetrations.
   2. DuPont™ FlexWrap™ NF: Flexible membrane flashing materials for window openings and penetrations.
   3. DuPont™ StraightFlash™: Straight flashing membrane materials for flashing windows and DuPont™ StraightFlash™ VF: Dual-sided flashing membrane materials for brick mold and non-flanged windows and doors.

4. DuPont™ Thru-Wall Surface Adhered Membrane with Integrated Drip Edge: Thru-Wall flashing membrane materials for flashing at changes in direction or elevation (shelf angles, foundations, etc.) and at transitions between different assembly materials.
5. Preformed Inside and Outside Corners and End Dams as distributed by DuPont: Preformed three-dimensional shapes to complete the flashing system used in conjunction with DuPont™ Thru-Wall Flashing.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify substrate and surface conditions are in accordance with weather barrier manufacturer recommended tolerances prior to installation of weather barrier and accessories.

3.2 INSTALLATION - WEATHER BARRIER

A. Install weather barrier over exterior face of exterior wall substrate in accordance with manufacturer recommendations

B. Install weather barrier prior to installation of windows and doors.

C. Start weather barrier installation at a building corner, leaving 6-12 inches of weather barrier extended beyond corner to overlap.

D. Install weather barrier in a horizontal manner starting at the lower portion of the wall surface with subsequent layers installed in a shingling manner to overlap lower layers. Maintain weather barrier plumb and level

E. Sill Plate Interface: Extend lower edge of weather barrier over sill plate interface 3-6 inches. Secure to foundation with elastomeric sealant as recommended by weather barrier manufacturer.

F. Window and Door Openings: Extend weather barrier completely over openings.

G. Overlap weather barrier
   1. Exterior corners: minimum 12 inches.
   2. Seams: minimum 6 inches.

H. Weather Barrier Attachment:
   1. Masonry Construction: Attach weather barrier to masonry. Secure using weather barrier manufacturer recommend fasteners, space 6-18 inches vertically on center and 24 inches maximum horizontally. Weather barrier may be temporarily attached to masonry using recommended adhesive, placed in vertical strips spaced 24 inches on center, when coordinated on the project site.

I. Apply 4 inch by 7 inch piece of DuPont TM StraightFlashTM or weather barrier manufacturer approved alternate to weather barrier membrane prior to the installation cladding anchors.

3.3 SEAMING

A. Seal seams of weather barrier with seam tape at all vertical and horizontal overlapping seams.

B. Seal any tears or cuts as recommended by weather barrier manufacturer.

3.4 OPENING PREPARATION

A. Flush cut weather barrier at edge of sheathing around full perimeter of opening.

B. Cut a head flap at 45-degree angle in the weather barrier at window head to expose 8 inches of sheathing. Temporarily secure weather barrier flap away from sheathing with tape
   1. FLASHING Cut [9-inch] wide DuPont™ FlexWrap™ or DuPont™ FlexWrap™ NF a minimum of 12 inches longer than width of sill rough opening.

C. Cover horizontal sill by aligning DuPont™ FlexWrap™ or DuPont™ FlexWrap™ NF edge with inside edge of sill. Adhere to rough opening across sill and up jambs a minimum of 6 inches. Secure flashing tightly into corners by working in along the sill before adhering up the jambs.

D. Fan DuPont™ FlexWrap™ at bottom corners onto face of wall. Firmly press in place. Mechanically fasten fanned edges. Mechanically fastening DuPont™ FlexWrap™ NF is not required.

E. Apply 9-inch wide strips of DuPont™ StraightFlash™ at jambs. Align flashing with interior edge of jamb framing. Start StraightFlash™ at head of opening and lap sill flashing down to the sill.

F. Spray-apply primer to top 6 inches of jambs and exposed sheathing.

G. Install DuPont™ FlexWrap™ or DuPont™ FlexWrap™ NF at opening head using same installation procedures used at sill. Overlap jamb flashing a minimum of 2 inches.

H. Coordinate flashing with window installation.

I. On exterior, install backer-rod in joint between window frame and flashed rough framing. Apply sealant at jambs and head, leaving sill unsealed. Apply sealants in accordance with sealant manufacturer’s instructions and ASTM C 1193.

J. Position weather barrier head flap across head flashing. Adhere using 4-inch wide DuPont™ StraightFlash™ over the 45-degree seams.

K. Tape top of window in accordance with manufacturer recommendations.

L. On interior, install backer rod in joint between frame of window and flashed rough framing. Apply sealant around entire window to create air seal. Apply sealant in accordance with sealant manufacturer’s instructions and ASTM C 1193.

3.5 THRU-WALL FLASHING INSTALLATION

A. Apply primer per manufacturer's written instructions

B. Install preformed corners and end dams bedded in sealant in appropriate locations along wall.

C. Starting at a corner, remove release sheet and apply membrane to primed surfaces in lengths of 8 to 10 feet.

D. Extend membrane through wall and leave ¼ inch minimum exposed to form drip edge.

E. Roll flashing into place. Ensure continuous and direct contact with substrate.

F. Lap ends and overlap preformed corners 4 inches minimum. Seal all laps with sealant.

G. Trim exterior edge of membrane 1-inch and secure metal drip edge per manufacturer's written instructions.

H. Apply sealant bead at each termination.

3.6 PROTECTION

A. Protect installed weather barrier from damage.

END OF SECTION

SECTION 07 53 03

ELASTOMERIC MEMBRANE ROOFING - FULLY ADHERED

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Insulation.
2. Membrane roofing, base flashings, roofing membrane expansion joints, and Counterflashings.
3. Snow Guard Patches.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 06 10 00 - Rough Carpentry.
5. Section 06 10 53 - Miscellaneous Rough Framing.
6. Section 07 54 00 - Snow Guards.
7. Section 07 62 00 - Sheet Metal Flashing and Trim.

1.2 SYSTEM DESCRIPTION

A. TPO Roofing System: One ply membrane system with insulation, and adhesive applied membrane finish.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate setting plan for tapered insulation, joint and termination detail conditions, conditions of interface with other materials.

C. Product Data: Submit characteristics on membrane materials, adhesives, seaming materials, flashing materials, insulation, and sheathing.

D. Manufacturer's Installation Instructions: Submit special precautions required for seaming membrane.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

F. Manufacturer's Field Reports: Indicate procedures followed; ambient temperatures, humidity, and wind velocity during application.

1.4 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum 20 years documented experience.

B. Applicator: Company specializing in performing Work of this section with minimum five years documented experience and approved by manufacturer.

1.5 REGULATORY REQUIREMENTS

A. Conform to applicable building codes for roof assembly fire hazard requirements.

B. Adhesive must conform to applicable building codes regarding VOC compliance or any other requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Deliver products in manufacturer's original containers, dry, undamaged, with seals and labels intact.

C. Store products in weather protected environment, clear of ground and moisture. Protect foam insulation from direct sunlight exposure.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Do not apply roofing membrane during inclement weather or when ambient temperatures are above or below those recommended by roofing manufacturer.

C. Do not apply roofing membrane to damp or frozen deck surface.

D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

1.8 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate Work with installation of associated roof penetrations and metal flashings, as Work of this section proceeds.

1.9 WARRANTY

A. Section 01 70 00 - Execution Requirements: Product warranties and product bonds.

B. Provide manufacturer's standard 20 year system warranty.

C. Warranty to cover repair or replacement of defective material and workmanship resulting in water leakage, abnormal aging or deterioration of materials and other failures of membrane roofing to perform as required.

1.10 PERFORMANCE REQUIREMENTS

A. Warranty wind speed: Maximum 3 second peak gust of 90 MPH.

B. Roofing supplier is responsible for providing system warrantied for specified maximum wind speed requirement.

PART 2 PRODUCTS

2.1 SINGLE PLY ROOFING - FULLY ADHERED

A. Manufacturers:
1. Carlisle

B. Substitutions permitted.

2.2 COMPONENTS

A. Membrane: Sure Weld TPO, 60 mil, color – Gray.

B. Seaming Materials: As recommended by membrane manufacturer.

2.3 ADHESIVE MATERIALS

A. Surface Conditioner: Compatible with membrane.

B. Membrane Adhesive: As recommended by insulation manufacturer.

C. Thinner and Cleaner: As recommended by adhesive manufacturer, compatible with sheet membrane.

D. Adhesive must conform to applicable building codes regarding VOC compliance or any other requirements.

2.4 INSULATION

A. If an underlayment is not used Insulation provided shall meet wind speed requirements as specified in Paragraph 1.10A

B. Insulation: Polyisocyanurate HP, rigid board with the following characteristics:
1. Board Density: 1.5 lb/cu. ft.

2.	Board Size:	48 inch by 96 inch
3.	Board Thickness:	2 inch minimum
4.	Board Edges:	Square

2.5 FLASHINGS

A. Flexible Flashings: Same material as membrane.

B. Counterflashings: Metal, as specified in Section 07 62 00.

2.6 ACCESSORIES

A. Sheathing Adhesive: Non-combustible type, for adhering gypsum sheathing to metal deck.

B. Sheathing Joint Tape: Paper, Heat resistant type.

C. Fasteners and Washers:: Galvanized or non-ferrous type, size as required to suit application.

D. Sealants: As recommended by membrane manufacturer.

E. Stack Boots: Flexible boot and collar for pipe stacks and electrical penetrations through membrane.

F. Pitch Pockets: As recommended by membrane manufacturer for refrigeration piping through membrane.

2.7 SNOW GUARD PATCHES

A. Provide TPO snow guard top patches as required by snowguard manufacturer to cover brackets. Size and installation to be coordinated with snow guard supplier.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify surfaces and site conditions are ready to receive Work.

C. Verify deck is supported and secure.

D. Verify deck is clean and smooth, free of depressions, waves, or projections, properly sloped to drains, and suitable for installation of roof system.

E. Verify deck surfaces are dry and free of snow or ice.

F. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, and wood nailing strips are in place.

3.2 INSTALLATION

A. Insulation Application:
1. Attach first layers to existing radiused wood substrate according to manufacturer's instructions.
2. USE FASTENER LENGTH WHICH DOES NOT PROTRUDE THROUGH WOOD SUBSTRATE.
3. Apply adhesive to top surface of insulation. Embed other layers of insulation into adhesive, with joints staggered minimum 6 inch from joints of first layer.
4. Place constant thickness layers first and tapered thickness insulation layers to required slope pattern in accordance with manufacturer's instructions.
5. Minimum Total Insulation Thickness: 4 inch.
6. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
7. Apply no more insulation than can be covered with membrane in same day.
8. Tape joints of insulation in accordance with insulation manufacturer's instructions.

B. Membrane Application:
1. Apply membrane in accordance with manufacturer's instructions.
2. Apply adhesive as recommended by membrane manufacturer.
3. Roll out membrane, free from air pockets, wrinkles, or tears. Firmly press sheet into place without stretching.
4. Bond sheet to substrate except those areas directly over or within 3 inches of control or expansion joint.
5. Overlap edges and ends and weld seal. Seal permanently waterproof. Apply uniform bead of sealant to joint edge.
6. Shingle joints on sloped substrate in direction of drainage.
7. Seal membrane around roof penetrations.

C. Flashings And Accessories:
1. Apply flexible flashings to seal membrane to vertical elements.
2. Fabricate roofing control and expansion joints to isolate roof into areas as indicated on Drawings. Make joints watertight.
3. Coordinate installation of roof drains and related flashings.
4. Seal flashings and flanges of items penetrating membrane.
5. Install walkway pads. Space pad joints to permit drainage.
6. Install snow guard patches over rail brackets according to manufacturers instructions.

3.3 FIELD QUALITY CONTROL

A. Section 01 40 00 - Quality Requirements: Testing and Inspection Services.

B. Require site attendance of roofing materials' manufacturers during installation of the Work.

C. Correct identified defects or irregularities.

3.4 CLEANING

A. Section 01 70 00 - Execution Requirements: Final cleaning.

B. In areas where finished surfaces are soiled by Work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.

C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution Requirements: Protecting installed construction.

B. Protect building surfaces against damage from roofing work.

C. Where traffic must continue over finished roof membrane, protect surfaces.

END OF SECTION

SECTION 07 54 00

SNOW GUARDS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. PP115R Snow guard that attaches directly to the roof deck.
2. Coordinate with the installation of the roof to assure proper placement of the snow guards.
3. Provide appropriate snow guard and fasteners for the roof system

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 06 10 00 - Rough Carpentry.
5. Section 07 53 03 - Elastic Membrane Roofing - Fully Adhered. Top Patches on Snow Guard brackets.

1.2 SYSTEM DESCRIPTION

A. Components:
1. PP115R Snow guard system consists of snow guard bracket and base plate with (2) stainless steel nuts and (2) bonded stainless steel and EPDM washers.
2. Tubing (Snow Fence).
a. Three Pipe System
3. Couplings.
4. End Caps.
5. End Collars.
6. Ferrules
7. Ice Flags.
8. Fasteners
a. To be of metal compatible with snow guards.
b. Fasteners should be selected for compatibility with the roof deck.
c. Fastener strength should exceed or be equal to that of the snow guard system.
9. Flashing Patch of appropriate size, material and method of installation to meet roof manufacturer's requirement for proper flashing.

1.3 DESIGN REQUIREMENTS:

A. Spacing to be recommended by manufacturer or building engineer.

B. Install a minimum of 8 fasteners per snow guard base plate.

C. It is important to design new structures or assess existing structures to make sure that they can withstand retained snow loads.

1.4 SUBMITTAL

A. Submit manufacturer's specifications, standard detail drawings, installation instructions, and recommended layout.

1.5 QUALITY ASSURANCE

A. Installer to be experienced in the installation of specified roofing material and snow guards for not less than 5 years in the area of the project.

1.6 DELIVERY / STORAGE / HANDLING

A. Inspect material upon delivery and order replacements for any missing or defective items. Keep material dry, covered and off the ground until installed.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Alpine SnowGuards. A division of Vermont Slate & Copper Services Inc.
   1. 289 Harrel St. Morrisville, VT 05661, (888) 766-4273 www.alpinesnowguards.com.

2.2 MATERIALS

A. Snow Guard Bracket - 6000 Series Aluminum.

B. Base Plate - 11 gage 304 stainless steel with two 5/16” 304 stainless steel machine screws welded into countersinks

C. Tubing:
   1. Aluminum – 6000 Series, 1” outside diameter and .120” wall thickness, extruded.

D. Couplings
   1. Aluminum – 6000 Series
      a. Internal and concealed coupling 3” long.
      b. External and exposed coupling which can also serve as an expansion mechanism 5” long.

E. End Caps - 304 Stainless Steel.

F. End Collars
   1. 6000 Series Aluminum.

G. Ferrules – 6000 Series Aluminum 1" O.D, .120" wall x 24" long. Cut to length on site.

H. Ice Flags
   1. 6000 Series Aluminum 3" wide x length (as needed).

I. Fasteners (can be purchased from others) to be compatible with chosen roof application and meet specified pull out values as shown in load test data.

2.3 FINISH:

A. Mill Finish – standard.

PART 3 EXECUTION

3.1 EXAMINATION

A. Substrate
   1. Inspect structure on which snow guard system is to be installed and verify that it will withstand any additional loading that it may incur. Notify general contractor of any deficiencies before installing Alpine Snow Guards.
   2. Verify that roofing material has been installed correctly prior to installing snow guards.

3.2 INSTALLATION

A. Comply with architectural drawings and snow guard manufacturer's recommendations for location of system. Comply with manufacturer's written installation instructions for installation and layout.

END OF SECTION

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SUMMARY

A. Section includes flashings , counter-flashings and eave trim.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 07 24 00 - Exterior Insulation and Finish Systems.
5. Section 07 53 03 - Elastomeric Membrane Roofing – Fully Adhered.
6. Section 07 71 00 - Roof Specialties: Preformed flashings.
7. Section 07 71 23 - Manufactured Gutters and Downspouts.
8. Section 07 90 00 - Joint Protection.
9. Section 08 41 13 - Aluminum Framed Entrances and Storefronts.

1.2 REFERENCES

A. ASTM International:
1. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
2. ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
3. ASTM D4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.

B. Sheet Metal and Air Conditioning Contractors:
1. SMACNA - Architectural Sheet Metal Manual.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

C. Product Data: Submit data on manufactured components metal types, finishes, and characteristics.

1.4 QUALIFICATIONS

A. Fabricator and Installer: Company specializing in sheet metal work with minimum three years experience.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

C. Prevent contact with materials causing discoloration or staining.

PART 2 PRODUCTS

2.1 SHEET METAL FLASHING AND TRIM

A. Aluminum Sheet: ASTM B209; 3003 alloy, H14 temper; 0.032 inch thick; color to match surrounding materials.

2.2 SHEET METAL EAVE TRIM (Back of Building at roof eave)

A. Aluminum Sheet: ASTM B209; 3003 alloy, H14 temper; 0.040 inch thick; color to match surrounding materials.
1. Material shall be segmented in longest possible sections.
2. Provide leg on roof for membrane to adhere to.

2.3 ACCESSORIES

A. Fasteners: Aluminum or stainless steel.

B. Primer: Zinc molybdate type.

C. Protective Backing Paint: FS TT-C-494, Bituminous.

D. Sealant: specified in Section 07 90 00 .

E. Plastic Cement: ASTM D4586 Type I

2.4 FABRICATION

A. Form sections shape indicated on Drawings, accurate in size, square, and free from distortion or defects.

B. Fabricate cleats of same material as sheet metal, interlocking with sheet.

C. Form pieces in longest possible lengths.

D. Hem exposed edges on underside 1/2 inch; miter and seam corners.

E. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

2.5 FACTORY FINISHING

A. Fluoropolymer Coating: Multiple coat as specified for sheet metal system, thermally cured, conforming to AAMA 2605.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, , and nailing strips located.

C. Verify roofing termination and base flashings are in place, sealed, and secure.

3.2 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Paint concealed metal surfaces with protective backing paint to minimum dry film thickness of 15 mil.

3.3 INSTALLATION

A. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.

B. Apply plastic cement compound between metal flashings and felt flashings.

C. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

D. Seal metal joints watertight.

END OF SECTION

SECTION 07 71 00

ROOF SPECIALTIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Copings.
   2. Drip Edge.

B. Related Sections:
   1. Section 01 30 00 - Administrative Requirements.
   2. Section 01 33 00 - Submittal Procedures.
   3. Section 01 40 00 - Quality Requirements.
   4. Section 07 53 03 - Elastomeric Membrane Roofing - Fully Adhered.
   5. Section 07 62 00 - Sheet Metal Flashing and Trim: Metal flashings.

1.2 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.

C. Product Data: Submit data on shape of components, materials and finishes, anchor types and locations.

D. Samples:
   1. Submit component samples of coping and Scupper.

E. Manufacturer's Installation Instructions: Submit instructions for special procedures and perimeter conditions requiring special attention.

PART 2 PRODUCTS

2.1 MANUFACTURED ROOF SPECIALTIES

A. Manufacturers:
   1. Metal Era: Perma-Tite Coping (tapered),

B. Substitutions: Section 01 60 00 - Product Requirements: Product options and substitutions. Substitutions permitted.
   1. No field or shop forming.

2.2 COMPONENTS

A. Copings: Formed, .040 inch thick aluminum, shaped as indicated on Drawings. Including special supports spaced per manufacturer's instructions. Include cover plates to conceal and weather seal joints and attachment flanges.
   1. Anchor Clip: Fabricated from 22 gage G-90 galvanized steel with factory welded stainless steel spring.
   2. Coping Cover: .040 inch aluminum.
   3. Splice Plate: 8 inch wide concealed with factory applied dual non-curing sealant strips, .040 inch aluminum.

B. One Drip edge: 040 inch aluminum with cleat.

2.3 ACCESSORIES

A. Sealant: Manufacturer's standard type suitable for use with installation of system; non-staining, non-skinning, non-shrinking, and non-sagging; ultra-violet and ozone resistant; color as selected.

2.4 FINISHES

A. Kynar 500 finish. Almond.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify deck, curbs, roof membrane, base flashing, and other items affecting Work of this section are in place and positioned correctly.

3.2 INSTALLATION

A. Install components in accordance with manufacturer's instructions.

B. Coordinate installation of components of this section with installation of roofing membrane and base flashings.

C. Coordinate installation of sealants and roofing cement with Work of this section to ensure water tightness.

END OF SECTION

SECTION 07 71 23

MANUFACTURED GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Pre-finished aluminum gutters and downspouts.

B. Related Sections:
   1. Section 01 33 00 - Submittal Procedures.
   2. Section 01 40 00 - Quality Requirements.
   3. Section 07 62 00 - Sheet Metal Flashing and Trim.

1.2 REFERENCES

A. ASTM International:
   1. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

B. Sheet Metal and Air Conditioning Contractors:
   1. SMACNA - Architectural Sheet Metal Manual

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on manufactured components, materials, and finishes.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with SMACNA Manual.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope to drain.

C. Prevent contact with materials during storage capable of causing discoloration, staining, or damage.

1.6 PROJECT CONDITIONS

A. Coordinate the work with downspout discharge pipe inlet.

PART 2 PRODUCTS

2.1 GUTTERS AND DOWNSPOUTS

A. Manufacturers:
   1. Metal Era, model IG-2-C7

B. Section 01 60 00 - Product Requirements: Substitutions. Substitutions permitted.

2.2 MATERIALS

A. Pre-Finished Aluminum: ASTM B209/B209M, manufacturer's standard alloy and temper for specified finish;.040 inch thick; shop pre-coated color : match YKK White Stone number KW3C22431.

B. Primer and Protective Backing Paint: As recommended by manufacturer.

2.3 ACCESSORIES

A. Downspouts: 3 inch square.

B. Connectors: Furnish required connector pieces for components.

C. Anchors and Supports: Profiled to suit gutters and downspouts.
   1. Anchoring Devices: Type recommended by fabricator.
   2. Gutter Supports: Type recommended by fabricator.
   3. Downspout Supports: Type recommended by fabricator.

D. Fasteners: Aluminum.

2.4 FABRICATION

A. Form sections to shape indicated on Drawings, square, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance.

B. Hem exposed edges of metal.

C. Fabricate with required connection pieces.

D. Fabricate gutter and downspout accessories; seal watertight.

2.5 FACTORY FINISHING

A. Alumalure 2000 Coating: Baked on two-coat acrylic finish.

B. Primer Coat: Finish concealed side of metal sheets with primer compatible with finish system, as recommended by finish system manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify surfaces are ready to receive gutters and downspouts.

3.2 INSTALLATION

A. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.

B. Sheet Metal: Join lengths with formed seams sealed watertight. Flash and seal gutters to downspouts and accessories.

C. Slope gutters 1/16 inch per foot minimum.

D. Connect downspouts to boots at 12 inches above grade. Connect to storm sewer system. Seal connection watertight.

END OF SECTION

SECTION 07 90 00

JOINT PROTECTION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Sealants and joint backing.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 03 30 00 - Cast-in-Place Concrete.
5. Section 04 20 00 - Unit Masonry Assemblies.
6. Section 06 41 00 - Architectural Wood casework.
7. Section 07 24 00 - Exterior Insulation and Finish System: Sealants required in conjunction with joint sealing.
8. Section 07 62 00 - Sheet Metal Flashing and Trim.
9. Section 08 12 14 - Standard Steel Frames: Sealants required in conjunction with door frames.
10. Section 08 31 13 - Access Doors and Panels.
11. Section 08 41 13 - Aluminum Framed Entrances and Storefronts.
12. Section 08 80 00 - Glazing: Glazing sealants and accessories.
13. Section 09 21 16 - Gypsum Board Assemblies: Acoustic sealant.
14. Section 09 30 00 - Tiling.
15. Section 09 51 13 - Acoustic Panel Ceilings.

1.2 REFERENCES

A. ASTM International:
1. ASTM C834 - Standard Specification for Latex Sealants.
2. ASTM C919 - Practice for Use of Sealants in Acoustical Applications.
3. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
4. ASTM C1193 - Standard Guide for Use of Joint Sealants.

B. South Coast Air Quality Management District:
1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.

C. Samples: Submit two samples, illustrating sealant colors for selection.

D. Manufacturer's Installation Instructions: Submit special procedures, surface preparation, and perimeter conditions requiring special attention.

1.4 QUALIFICATIONS

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

B. Applicator: Company specializing in performing Work of this section with minimum three years documented experience.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Products Requirements.

B. Maintain temperature and humidity recommended by sealant manufacturer during and after installation.

1.6 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate Work with sections referencing this section.

PART 2 PRODUCTS

2.1 JOINT SEALERS

A. General Purpose Exterior Sealant: ASTM C920, Grade NS, Class 25, Uses M, G, and A; single or multi - component.
   1. Type: Dynatrol I and II manufactured by Pecora Corp.
   2. Color: Standard colors matching finished surfaces.
   3. Applications: Use for:
      a. Control, expansion, and soft joints in masonry.
      b. Joints between concrete and other materials.
      c. Joints between metal frames and other materials.
      d. Other exterior non-traffic joints for which no other sealant is indicated.

B. Exterior Metal Lap Joint Sealant: Acetoxy Silicone.
   1. Type: 860 Silicone manufactured by Pecora Corp.
   2. Applications: Use for concealed sealant bead in sheet metal work.

C. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, single component, paintable
   1. Type: AC-20 + Silicone manufactured by Pecora Corp.
   2. Color: Standard colors matching finished surfaces.
   3. Applications: Use for interior wall and ceiling control joints, joints between door and window frames and wall surfaces including all finished wall surfaces, and other interior joints for which no other type of sealant is indicated.

D. Countertop Joint Sealer: One - part neutral-curing silicone, ASTM C920.
   1. Type 898 Silicone Sanitary Sealant manufactured by Pecora.
   2. Color: Translucent.
   3. Applications: Use for sealing joints around countertops and backsplashes.

E. EIFS Joint Sealer: ASTM C920, Type M, Grade NS, Class 50.
   1. Tremco Spectrum 4-TS silicone sealant.

2.2 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: Round foam rod compatible with sealant; oversized 30 to 50 percent larger than joint width.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify substrate surfaces and joint openings are ready to receive work.

C. Verify joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

A. Remove loose materials and foreign matter impairing adhesion of sealant.

B. Clean and prime joints.

C. Perform preparation in accordance with ASTM C1193.

D. Protect elements surrounding Work of this section from damage or disfiguration.

3.3 INSTALLATION

A. Perform installation in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform acoustical sealant application work in accordance with ASTM C919.

C. 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.

D. Install bond breaker where joint backing is not used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

G. Tool joints concave.

3.4 CLEANING

A. Section 01 70 00 - Execution Requirements: Final cleaning.

B. Clean adjacent soiled surfaces.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution Requirements: Protecting installed construction.

B. Protect sealants until cured.

END OF SECTION

SECTION 08 12 14

STANDARD STEEL FRAMES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Non-rated steel frames, glazed frames.

B. Related Section
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 04 05 03 - Masonry Mortar and Grout.
5. Section 04 20 00 - Unit Masonry Assemblies: Masonry grout fill of metal frames and placement of anchors into masonry wall construction.
6. Section 06 10 00 - Rough Carpentry.
7. Section 07 90 00 - Joint Sealers
8. Section 08 13 14 - Standard Steel Doors
9. Section 08 14 16 - Flush Wood Doors
10. Section 08 71 00 - Door Hardware: Hardware, silencers, and weather stripping.
11. Section 08 80 00 - Glazing.
12. Section 09 21 16 - Gypsum Board Assemblies.
13. Section 09 90 00 - Painting and Coatings.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.
2. ANSI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.

B. ASTM International:
1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
2. ASTM A924/A924M - Specifications for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.

C. Door Hardware Institute:
1. DHI - The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builders Hardware.

D. National Fire Protection Association:
1. NFPA 80 - Standard for Fire Doors, Fire Windows.
2. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.

E. SDI:
   1. SDI-100 - Standard Steel Doors and Frames.

F. Underwriters Laboratories Inc.:
   1. UL 10B - Fire Tests of Door Assemblies.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate frame elevations, reinforcement, anchor types and spacing, location of cut-outs for hardware, and finish.

C. Product Data: Submit frame configuration and finishes.

D. Manufacturer's Installation Instructions: Submit special installation instructions.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Accept frames on site in manufacturer's packaging. Inspect for damage.

1.6 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate Work with frame opening construction, door, and hardware installation.

PART 2 PRODUCTS

2.1 STANDARD STEEL FRAMES

A. Manufacturers:
   1. Curries Company.
   2. CECO.
   3. Steelcraft.

B. Substitutions: Section 01 60 00 - Products Requirements. Substitutions permitted.

2.2 FRAMES

A. Frames: 16 gage Type M flush frames and Type CM drywall frames.

2.3 ACCESSORIES

A. Primer: Zinc chromate type.

B. Silencers: Vinyl fitted into drilled hole.

2.4 FABRICATION

A. Fabricate frames as welded unit.

B. Transom Bars for Glazed Lights: Fixed type, of same profiles as jamb and head.

C. Fabricate frames with hardware reinforcement plates welded in place.

D. Reinforce frames wider than 48 inches with roll formed steel channels fitted tightly into frame head, flush with top.

E. Prepare Frames for silencers.

2.5 SHOP FINISHING

A. Steel Sheet: Galvanized to ASTM A653 A60; exterior frames

B. Primer: Baked.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify opening sizes and tolerances are acceptable.

3.2 INSTALLATION

A. Install frames in accordance with ANSI A250.8.

B. Coordinate with masonry and gypsum board wall construction for anchor placement.

C. Coordinate installation of glass and glazing specified in Section 08 80 00.

D. Coordinate installation of frames with installation of hardware specified in Section 08 71 00 and doors in Section 08 14 16, 08 13 14.

E. Install roll formed steel reinforcement channels between two abutting frames. Anchor to structure and floor.

3.3 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

END OF SECTION

SECTION 08 13 14

STANDARD STEEL DOORS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Non-rated, thermally insulated steel doors.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 08 12 14 - Standard Steel Frames.
5. Section 08 71 00 - Door Hardware.
6. Section 09 90 00 - Paints and Coatings: Field painting of doors.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.

B. ASTM International:
1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
2. ASTM A924A924M - Specification for General Requirements for Sheet Steel, Metallic-Coated by the Hot-Dip Process.
3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

C. Door Hardware Institute:
1. DHI - The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builders Hardware.

D. Steel Door Institute:
1. SDI 108 - Recommended Selection and Usage Guide for Standard Steel Doors.

E. Underwriters Laboratories Inc.:
1. UL 1784 - Air Leakage Tests of Door Assemblies.

F. National Fire Protection Association:
1. NFPA 80 - Standard for Fire Doors, Fire Windows.
2. NFPA 105 - Standard for the Installation of Smoke Door Assemblies and other Opening Protectives.

3. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.

G. Steel Door Institute:
1. SDI 108 - Recommended Selection and Usage Guide for Standard Steel Doors.

H. Underwriters Laboratories Inc.:
1. UL 10B - Fire Tests of Door Assemblies.
2. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
3. UL 1784 - Air Leakage Tests of Door Assemblies.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: Indicate door elevations, internal reinforcement, closure method, and cut-outs for glazing.

C. Product Data: Submit door configurations, location of cut-outs for hardware reinforcement.

D. Manufacturer's Installation Instructions: Submit special installation instructions.

E. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Conform to requirements of SDI-100 and ANSI A117.1.

B. Perform work in accordance with ANSI A250.8

C. Fire Rated Door Construction: Conform to NFPA 252.

D. Installed Fire Rated Door and Panel Assembly: Conform to NFPA 80 for fire rated class indicated on Drawings.

E. Attach label from agency approved by authority having jurisdiction to identify each fire rated door.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum five years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Accept doors on site in manufacturer's packaging. Inspect for damage.

C. Break seal on site to permit ventilation.

1.7 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate Work with door opening construction, door frame, and door hardware installation.

PART 2 PRODUCTS

2.1 STANDARD STEEL DOORS

A. Manufacturers:
1. Curries Co.
2. Ceco.

B. Substitutions: Section 01 60 00 - Product Requirements. Substitutions permitted.

2.2 DOORS

A. Exterior Doors: Extra Heavy Duty 16 gauge full flush doors. 1 3/4 inch thick

2.3 COMPONENTS

A. Face: Steel sheet in accordance with SDI-100.

B. End Closure: Channel, 16 gauge, inverted.

C. Thermally Insulated Doors:
1. Polyurethane Core: Total insulation R value of 12.5.

2.4 ACCESSORIES

A. Vinyl Top and Bottom Caps: For exterior doors.

B. Primer: Zinc chromate type.

2.5 FABRICATION

A. Fabricate doors with hardware reinforcement welded in place..

2.6 SHOP FINISHING

A. Steel Sheet: Galvanized to ASTM A653/A653M A60; exterior doors

B. Primer: Baked.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify opening sizes and tolerances are acceptable.

3.2 INSTALLATION

A. Install doors in accordance with ANSI A250.8.

B. Coordinate installation of doors with installation of frames specified in Section 08 12 14 and hardware specified in Section 08 71 00.

3.3 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.4 ADJUSTING

A. Section 01 70 00 - Execution Requirements: Requirements for adjusting.

B. Adjust door for smooth and balanced door movement.

3.5 SCHEDULE

A. Refer to Door and Frame Schedule on drawings.

END OF SECTION

SECTION 08 14 16

FLUSH WOOD DOORS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes flush wood doors, glazed, non-rated.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 06 20 00 - Finish Carpentry:
5. Section 08 12 14 - Standard Steel Frames.
6. Section 08 71 00 - Door Hardware.
7. Section 08 80 00 - Glazing.
8. Section 09 90 00 - Painting and Coating: Site finishing of wood doors.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI A135.4 - Basic Hardboard.

B. ASTM International:
1. ASTM E413 - Classification for Rating Sound Insulation.

C. Architectural Woodwork Institute:
1. AWI - Quality Standards Illustrated.

D. Forest Stewardship Council:
1. FSC Guidelines - Forest Stewardship Council Guidelines.

E. Hardwood Plywood and Veneer Association:
1. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood.

F. Intertek Testing Services (Warnock Hersey Listed):
1. WH - Certification Listings.

G. National Electrical Manufacturers Association:
1. NEMA LD 3 - High Pressure Decorative Laminates.

H. National Fire Protection Association:
1. NFPA 80 - Standard for Fire Doors, Fire Windows.

2. NFPA 105 - Standard for the Installation of Smoke Door Assemblies and other Opening Protectives.
3. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.

I. South Coast Air Quality Management District:
1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

J. Underwriters Laboratories Inc.:
1. UL - Building Materials Directory.
2. UL 10B - Fire Tests of Door Assemblies.
3. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
4. UL 1784 - Air Leakage Tests of Door Assemblies.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special blocking for hardware, factory machining criteria, factory finishing criteria.

C. Product Data: Submit information on door core materials and construction, and on veneer species, type and characteristics.

D. Samples:
1. Submit two samples of door construction, 12 x12 inch.

E. Manufacturer's Installation Instructions: Submit special installation instructions.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with AWI Quality Standard Section 1300, Custom Grade

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years [documented] experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Accept doors on site in manufacturer's packaging. Inspect for damage.

C. Protect doors with resilient packaging. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges when stored more than one week.
1. Break seal on site to permit ventilation.

1.7 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate Work with door opening construction, door frame and door hardware installation.

1.8 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

B. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

C. Furnish manufacturer's "Life of Installation" warranty for interior doors.

PART 2 PRODUCTS

2.1 FLUSH WOOD DOORS

A. Manufacturer:
1. Mohawk
2. Marshfield
3. VT Industries.

B. Substitutions: Section 01 60 00 - Product Requirements: Substitutions permitted.

2.2 DOOR TYPES

A. Interior Doors: 1 3/4 inches thick, solid core construction, Non-Rated.

B. Supply all wood doors from the same manufacturer.

2.3 DOOR TYPES

A. Product Description: 1 3/4 inches thick; solid core flush panel construction.
1. Flush

B. Supply all wood doors from the same manufacturer.
1. 1-3/4 inch thick solid wood and solid core flush panel.
2. Select white birch veneer.

2.4 COMPONENTS

A. Solid Core, Non-Rated: AWI Section 1300, Type PC - Particleboard. FPC - Framed Non-glued (Drop In) Particleboard.

B. Solid Core, Fire Rated: AWI Section 1300, Type FD 1-1/2, FD 3/4, and FD 1/3.

2.5 ADHESIVE

A. Facing Adhesive: Type I - waterproof.

2.6 FABRICATION

A. Fabricate doors in accordance with specified manufacturer's requirements.

B. Fabricate fire rated doors in accordance with specified manufacturer's and Warnock Hersey requirements. Attach fire rating label to door.

C. Furnish lock blocks at lock edge and top of door for closer for hardware reinforcement. Required on mineral core doors only.

D. Vertical Exposed Edge of Stiles: Of same material as door facing.

E. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware. Furnish solid blocking for through bolted hardware.

F. Factory fit doors for frame opening dimensions identified on shop drawings.

G. Provide edge clearances in accordance with AWI 1600.

2.7 SHOP FINISHING

A. Factory finish doors in accordance with manufacturer's standards.
1. Doors: Stain and clearcoat. Color as chosen by Architect.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements; Coordination and project conditions.

B. Verify opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.2 INSTALLATION

A. Install doors in accordance with AWI Quality Standards requirements.

B. Trim non-rated door width by cutting equally on both jamb edges.

C. Trim door height by cutting bottom edges as follows.
   1. 3/8" above thresholds.
   2. Doors swinging over carpet = 3/4" above top of concrete subfloor.

D. Machine cut doors for hardware installation.

E. Coordinate installation of doors with installation of frames specified in Section 08 12 14 and hardware specified in Section 08 71 00.

F. Coordinate installation of glass and glazing specified in Section 08 80 00.

3.3 INSTALLATION TOLERANCES

A. Maximum Diagonal Distortion (Warp): 1/8 inch measured with straight edge or taut string, corner to corner, over imaginary 36 x 84 inches surface area.

B. Maximum Vertical Distortion (Bow): 1/8 inch measured with straight edge or taut string, top to bottom, over imaginary 36 x 84 inches surface area.

C. Maximum Width Distortion (Cup): 1/8 inch measured with straight edge or taut string, edge to edge, over imaginary 36 x 84 inches surface area.

3.4 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting, and balancing.

B. Adjust door for smooth and balanced door movement.

C. Adjust closer for full closure.

END OF SECTION

SECTION 08 31 13

ACCESS DOORS AND FRAMES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes fire resistive rated and non-rated access doors and panels with frames.
   1. Provide for access to controls, valves, traps, dampers, cleanouts, and similar items requiring operation behind inaccessible finished surfaces.
   2. Coordinate exact locations with various trades to assure proper placement of access doors and panels.

B. Related Sections
   1. Section 01 30 00 - Administrative Requirements
   2. Section 01 33 00 - Submittal Procedures
   3. Section 01 40 00 - Quality Requirements.
   4. Section 07 90 00 - Joint Sealers.
   5. Section 09 21 16 - Gypsum Board Assemblies.
   6. Section 09 30 00 - Tiling
   7. Section 09 51 13 - Acoustical Tile Ceilings.
   8. Section 09 90 00 - Painting and Coating: Field paint finish.

1.2 REFERENCES

A. ASTM International:
   1. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

B. Intertek Testing Services (Warnock Hersey Listed):
   1. WH - Certification Listings.

C. National Fire Protection Association:
   1. NFPA 80 - Standard for Fire Doors, Fire Windows.
   2. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.
   3. NFPA 288 - NFPA 288: Standard Method of Fire Tests of Floor Fire Door Assemblies Installed Horizontally in Fire Resistance-Rated Floor Systems.

D. Underwriters Laboratories Inc.:
   1. UL 10B - Fire Tests of Door Assemblies.
   2. UL 263 - Standard for Safety for Fire Tests of Building Construction and Materials.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures Submittal procedures.

B. Shop Drawings: Indicate exact position of access door units.

C. Product Data: Submit literature indicating sizes, types, finishes, hardware, scheduled locations, fire resistance listings, and details of adjoining Work.

D. Manufacturer's Installation Instructions: Submit installation requirements and rough-in dimensions.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Project Record Documents: Record actual locations of access units.

1.5 QUALITY ASSURANCE

A. Fire Rated Access Door Construction: Conform to one of the following:
1. Wall Access Doors: NFPA 252 or UL 10B.
2. Ceiling Access Doors: ASTM E119 or UL 263.

B. Fire Rated Floor Hatch: Tested in accordance with NFPA 288.

C. Installed Fire Rated Access Door Assembly: Conform to NFPA 80 for fire rated class as indicated on Drawings.

1.6 COORDINATION

A. Section 01 30 00 - Administrative Requirements; Requirements for coordination.

B. Coordinate Work with work requiring controls, valves, traps, dampers, cleanouts, and similar items requiring operation being located behind finished surfaces.

PART 2 PRODUCTS

2.1 ACCESS DOORS AND PANELS

A. Manufacturers:
1. Karp Associates, Inc.
2. Substitutions: Section 01 60 00 - Product Requirements Permitted.

2.2 ACCESS UNITS

A. Model: DSC-214M
   1. Size: 8 inches wide by 8 inches high
   2. Size: 12 inches wide by 12 inches high
   3. Size: 22 inches wide by 30 inches high

2.3 FABRICATION

A. Fabricate units of continuous welded construction; weld, fill, and grind joints to assure flush and square unit.

B. Wall and Ceiling Access Door and Panel Hardware:
   1. Hinge: Standard continuous.

2.4 SHOP FINISHING

A. Base Metal Protection: Prime coat units with baked on primer.

B. Finish: See Section 09 90 00.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify rough openings for access doors and panels are correctly sized and located.

3.2 INSTALLATION

A. Secure frames rigidly in place, plumb and level in opening, with plane of door and panel face aligned with adjacent finished surfaces.
   1. Set concealed frame type units flush with adjacent finished surfaces.

B. Position unit to provide convenient access to concealed work requiring access.

C. Install fire rated units in accordance with NFPA 80 and requirements for fire listing.

D. Finish panel frames according to Section 092116.

3.3 SCHEDULES

A. Model DSC-214M; use at walls, floors and ceilings.
   1. Provide for access to controls, valves, traps, dampers, cleanouts, and similar items requiring operation behind inaccessible finished surfaces.

END OF SECTION

SECTION 08 41 13

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes aluminum-framed storefronts including aluminum and glass doors and frames including hardware and sealant.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 06 10 00 - Rough Carpentry.
5. Section 07 62 00 - Sheet Metal Flashing and Trim.
6. Section 07 90 00 - Joint Protection: System perimeter sealant and back-up materials.
7. Section 08 71 00 - Door Hardware: Mortised hardware reinforcement requirements affecting framing members; hardware items other than specified in this section.
8. Section 08 80 00 - Glazing.

1.2 REFERENCES

A. Aluminum Association:
1. AA ADM 1 - Aluminum Design Manual.

B. American Architectural Manufacturers Association/Window & Door Manufacturers Association:
1. AAMA/WDMA 101/I.S.2 - Specification for Windows, Doors and Unit Skylights.
2. AAMA 502 - Voluntary Specification for Field Testing of Windows and Sliding Glass Doors.
3. AAMA 503 - Voluntary Specification for Field Testing of Metal Storefronts. Curtain Wall and Sloped Glazing Systems.
4. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum.
5. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.
6. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site.
7. AAMA MCWM-1 - Metal Curtain Wall Manual.
8. AAMA SFM-1 - Aluminum Store Front and Entrance Manual.

C. American Society of Civil Engineers:
1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.

D. ASTM International:
1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
4. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
5. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
6. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
7. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
8. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
9. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
10. ASTM E547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Differential.
11. ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Curtain Walls, and Doors by Uniform or Cyclic Static Air Pressure Difference.
12. ASTM E1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
13. ASTM E1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.

E. National Fenestration Rating Council Incorporated:
1. NFRC 100 - Procedures for Determining Fenestration Product U-Factors.

F. SSPC: The Society for Protective Coatings:
1. SSPC Paint 20 - Zinc-Rich Primers (Type I - Inorganic and Type II - Organic).
2. SSPC Paint 25 - Red Iron Oxide, Zinc Oxide, Raw Linseed Oil, and Alkyd Primer.

G. South Coast Air Quality Management District:
1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

1.3 SYSTEM DESCRIPTION

A. Aluminum-framed storefront system includes tubular aluminum sections with supplementary internal support framing, aluminum and glass entrances, shop fabricated, factory finished, glass and glazing, related flashings, anchorage and attachment devices.

1.4 PERFORMANCE REQUIREMENTS

A. System Design: Design and size components to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of wall, including building corners.
   1. To design pressure of 25 lb/sq ft, as tested in accordance with ASTM E330.

B. Deflection: Limit mullion deflection to 1/175 of span with full recovery of glazing materials.

C. System Assembly: Accommodate without damage to components or deterioration of seals, movement within system, movement between system and peripheral construction, dynamic loading and release of loads, deflection of structural support framing.

D. Air Infiltration: Limit air leakage through assembly to 0.06 cfm/min/sq ft of wall area, measured at reference differential pressure across assembly of 6.24 psf as measured in accordance with ASTM E283.

E. Air and Vapor Seal: Maintain continuous air barrier and vapor retarder throughout assembly, primarily in line with inside pane of glass and heel bead of glazing compound.

F. Water Leakage: None, when measured in accordance with ASTM 331 with test pressure difference of 20 percent of design pressure.

G. Expansion / Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over 12 hour period without causing detrimental effect to system components and anchorage.

H. System Internal Drainage: Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to exterior by weep drainage network.

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work and expansion and contraction joint location and details.

C. Product Data: Submit component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, and internal drainage details.

D. Design Data: Indicate framing member structural and physical characteristics, dimensional limitations.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with AAMA SFM-1 and AAMA MCWM-1 - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.

B. Surface Burning Characteristics:
1. Foam Insulation: Maximum 75/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

C. Apply label from agency approved by authority having jurisdiction to identify each foam plastic insulation board.

1.7 QUALIFICATIONS

A. Manufacturer and Installer: Company specializing in manufacturing aluminum glazing systems with minimum three years documented experience and with service facilities within 100 miles of Project.

B. Certification by manufacturer that aluminum framing system complies with performance requirements.

1.8 DELIVERY, STORAGE, AND PROTECTION

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Handle Products of this section in accordance with AAMA MCWM-1 - Curtain Wall Manual #10.

C. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings which bond when exposed to sunlight or weather.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements

B. Do not install sealants nor glazing materials when ambient temperature is less than 40 degrees F during, and 48 hours after installation.

1.10 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

1.11 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

B. Furnish five year manufacturer warranty for glazed units.

PART 2 PRODUCTS

2.1 ALUMINUM-FRAMED STOREFRONTS

A. Manufacturers:
1. YKK
   a. YES 45 TU Storefronts
   b. YOW225TU Operable windows.
   b. Wide Style 50D swing doors
2. Substitutions: Section 01 60 00 - Product Requirements permitted.

C. Product Description:
1. Aluminum Frame: Thermally broken; drainage holes; internal weep drainage system. Frames for interior glazing need not to be thermally broken.
2. Doors: Aluminum framed glass doors; 1-3/4 thick, beveled glazing stops.

2.2 COMPONENTS

A. Extruded Aluminum: ASTM B221; 6063 alloy, T5 temper typical, 6061 alloy, T6 temper for extruded structural members.

B. Sheet Aluminum: ASTM B209; 5005 alloy, H15 or H34 temper.

C. Sheet Steel: ASTM A653/A653M; galvanized to minimum G90 coating class.

D. Steel Sections: ASTM A36/A36M; shaped to suit mullion sections, galvanized.

E. Glass: Specified in Section 08 80 00.

F. Hardware for Single Exterior Doors 101, 147: Furnish manufacturer's standard door hardware for types of doors and applications indicated, and as specified below.
1. Threshold: Standard Extruded aluminum, one piece for each door opening,
2. Butt Hinges: Three H2303 heavy duty. finish to match door
3. One Rim Panic exit device. Model No. 1590 as manufactured by Dor-O-Matic.
4. Closer: One P61205 door closer (Equip with back-check feature). Paint to match storefront frame finish. ADA compliant.
5. Door Bottom sweep.
6. Standard 9 inch pull 32D
7. Weather Stripping
8. Lock cylinders.
9. Finish: Exposed hardware to match hardware finishes specified in Section 08 71 00 .
10. Lock Cylinders: Section 08 71 00.
11. Door manufacturer is to provide General Contractor with lock device to be used during construction.

G. Hardware for Exterior Double Door 128 : Furnish manufacturer's standard door hardware for types of doors and applications indicated, and as specified below.

1. Weather Stripping: Equal to Kawneer Sealair
2. Threshold: Standard Extruded aluminum, one piece for each door opening,
3. Butt Hinges:Three H2303 heavy duty. finish to match door
4. Two concealed vertical rod exit device furnished with lever handle. Model No. 1490 as manufactured by Dor-O-Matic.
5. Closer: Two P61205 door closer (Equip with back-check feature). Paint to match storefront frame finish. ADA compliant.
6. Two Door Bottom sweeps.
7. Standard 9 inch pull 32D
8. Lock cylinders.
9. Finish: Exposed hardware to match hardware finishes specified in Section 08 71 00 .
10. Lock Cylinders: Section 08 71 00.
11. Door manufacturer is to provide General Contractor with lock device to be used during construction.

H. Flashings: Minimum 0.032 inch thick aluminum to match mullion sections where exposed.

I. Sealant and Backing Materials:
1. Perimeter Sealant: Specified in Section 07 90 00

J. Fasteners: Stainless steel.

K. Non-thermally conductive filler strips for caulking back-up where frame meets EIFS or ceramic tile.

L. Thermal sub-sill.

2.3 FABRICATION

A. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.

B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.

C. Prepare components to receive anchor devices. Fabricate anchors.

D. Arrange fasteners and attachments to conceal from view.

E. Prepare components with internal reinforcement for door hardware.

F. Reinforce framing members for imposed loads.

2.4 SHOP FINISHING

A. Painted Aluminum Surfaces

1. High Performance Organic Coating: Fluoropolymer coating system complying with 2605 minimum two-coat with minimum 70 percent polyvinylidene fluoride resin.
2. Color: Bone White UC43350.

B. Concealed Steel Items: Galvanized to ASTM A123/A123M; minimum 2.0 oz/sq ft coating thickness

C. Apply bituminous paint to concealed aluminum and steel surfaces in contact with cementitious or dissimilar metals.

D. Touch-Up Primer for Galvanized Steel Surfaces: SSPC Paint 20 zinc rich.
1. Interior Anti-Corrosive Paints

E. Extent of Finish:
1. Apply factory coating to surfaces exposed at completed assemblies.
2. Apply finish to surfaces cut during fabrication so no natural aluminum is visible in completed assemblies, including joint edges.
3. Apply touch-up materials recommended by coating manufacturer for field application to cut ends and minor damage to factory applied finish.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify dimensions, tolerances, and method of attachment with other Work.

C. Verify wall openings and adjoining air and vapor seal materials are ready to receive Work of this Section.

3.2 INSTALLATION

A. Install wall system in accordance with AAMA MCWM-1 - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.

B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

C. Provide alignment attachments and shims to permanently fasten system to building structure.

D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent Work.

E. Provide thermal isolation where components penetrate or disrupt building insulation.

F. Install sill flashings. Turn up ends and edges; seal to adjacent Work to form water tight dam.

G. Coordinate attachment and seal of perimeter air and vapor retarder materials.

H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

I. Install integral flashings and integral joint sealers.

J. Set thresholds in bed of mastic and secure.

K. Install hardware using templates provided.

L. Install infill panels using method required to achieve performance criteria.

M. Coordinate installation of glass with Section 08 80 00; separate glass from metal surfaces.

N. Coordinate installation of perimeter sealants with Section 07 90 00.

3.3 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation from Plumb: 0.06 inches every 3 ft non-cumulative or 1/16 inches per 10 ft whichever is less.

C. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

3.4 ADJUSTING

A. Section 01 70 00 - Execution and Closeout Requirements: Testing, adjusting and balancing.

B. Adjust operating hardware for smooth operation.

3.5 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Remove protective material from pre-finished aluminum surfaces.

C. Wash down surfaces with solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.

D. Remove excess sealant by method acceptable to sealant manufacturer.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.

B. Protect finished Work from damage.

END OF SECTION

SECTION 08 71 00

DOOR HARDWARE

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Hardware for wood and hollow metals doors.
2. Provide door gaskets, including weatherstripping and seals.
3. Thresholds.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 06 10 53 - Miscellaneous Rough Carpentry.
5. Section 08 13 14 - Standard Steel Doors.
6. Section 08 12 14 - Standard Steel Frames: Silencers integral with steel frames.
7. Section 08 14 16 - Flush Wood Doors.
8. Section 08 41 13 - Aluminum Framed Entrances and Storefronts.
9. Section 08 42 49 - Automatic Entrances.

1.2 REFERENCES

A. National Fire Protection Association:
1. NFPA 80 - Standard for Fire Doors, Fire Windows.
2. NFPA 101 - Life Safety Code.
3. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.

B. Underwriters Laboratories Inc.:
1. UL 10B - Fire Tests of Door Assemblies.
2. UL 305 - Panic Hardware.

C. Builders Hardware Manufacturers Association:
1. BHMA - A156 Series.

D. Door Hardware Institute
1. DHI - A115 Series.
2. DHI - WDHS.3 - Architectural Hardware for Wood Flush Doors.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings:
   1. Indicate locations and mounting heights of each type of hardware, schedules, catalog cuts, electrical characteristics and connection requirements.
   2. Submit manufacturer's parts lists, templates and schedules.
   3. Manufacturer's Installation Instructions: Submit special procedures, and perimeter conditions requiring special attention.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout procedures.

B. Project Record Documents: Record actual locations of installed cylinders and their master key code.

C. Operation and Maintenance Data: Submit data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

D. Keys: Deliver with identifying tags to Owner by security shipment direct from hardware supplier.

E. Warranty: Submit minimum two year warranty for all hardware and ensure forms have been completed in Owner’s name and registered with manufacturer.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with the following requirements:
   1. AWI.
   2. BHMA - A156 Series.
   3. DHI - A115 Series.
   4. DHI - WDHS.3.
   5. NFPA 80.
   6. NFPA 101.
   7. UL 10B.
   8. UL 305.

B. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

C. Hardware Supplier: Company specializing in supplying commercial/institutional door hardware with minimum three years documented experience.

D. Hardware Supplier Personnel: Employ Architectural Hardware Consultant (SHC) to assist in work of this Section.

1.6 REGULATORY REQUIREMENTS

A. Products requiring Electrical Connection: Listed and classified by Underwriters' Laboratories, Inc., testing firm acceptable to authority having jurisdiction as suitable for purpose specified and indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Package hardware items individually with necessary fasteners, instructions, and installation templates, when necessary; label and identify each package with door opening code to match hardware schedule.

1.8 COORDINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Coordinate Work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware and recessed items.
   1. Provide templates or actual hardware as required to ensure proper preparation of doors and frames.

C. Sequence installation to accommodate required utility connections.

D. Coordinate Owner's keying requirements during course of Work.

1.9 MAINTENANCE MATERIALS

A. Section 01 70 00 - Execution Requirements: Maintenance materials.

B. Furnish special wrenches and tools applicable for each different and for each special hardware component.

C. Furnish maintenance tools and accessories supplied by hardware component manufacturer.

PART 2 PRODUCTS

2.1 DOOR HARDWARE

A. Manufacturers:
   1. Hinge Manufacturers:
      a. McKinney.
      b. Stanley.
      c. Lawrence.

2. Latch Sets Manufacturers:
   a. Sargent.
   b. Schlage
   c. Yale.
   d. Corbin.
3. Exit Device Manufacturers:
   a. VonDuprin.
   b. Sargent.
   c. Corbin.
4. Push/Pull Manufacturers:
   a. Trimco
   b. Rockwood
5. Cylinder Lock Manufacturers:
   a. Sargent.
   b. Schlage.
   c. Yale.
   d. Corbin.
6. Closers Manufacturers:
   a. LCN.
   b. Yale.
   c. Sargent.
   d. Corbin.
7. Door Controls and Overhead Holders Manufacturers:
   a. Sargent.
8. Manual Bolts Manufacturers:
   a. H. B. Ives.
   b. Rockwood.
9. Gasketing and Thresholds Manufacturers:
   a. Pemko.
   b. Reese.
10. Protection Plate Manufacturers:
    a. Trimco.
    b. Rockwood.
11. Floor Stops, Door Guards, and Viewers Manufacturers:
    a. Ives.
    b. Trimco.

2.2 KEYING

A. Door Locks: Keyed differently and master keyed. Owner to determine keying requirements.
   1. Include construction keying.

B. Supply keys in the following quantities:
   1. 6 master keys.
   2. 2 construction keys.

3. 3 change keys for each lock.

2.3 KEY CABINET

A. Cabinet Construction: 20 gage steel construction, piano hinged door equipped with Model K-207 manufactured by American Device Manufacturing Co.

B. Finish: Baked Enamel, finish in standard color.

2.4 FINISHING

A. Identified in Schedule at end of Section.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify doors and frames are ready to receive door hardware and dimensions are as indicated on shop drawings.

C. Verify electric power is available to power operated devices and is of correct characteristics.

3.2 INSTALLATION

A. Install hardware in accordance with manufacturer’s instructions.

B. Coordinate mounting heights with door and frame manufacturers. Use templates provided by hardware item manufacturer.

3.3 FIELD QUALITY CONTROL

A. Section 01 70 00 - Execution Requirements: Testing, adjusting, and balancing.

B. Architectural Hardware Consultant will inspect installation and certify hardware and installation has been furnished and installed in accordance with manufacturer's instructions and as specified.

3.4 ADJUSTING

A. Section 01 70 00 - Execution Requirements: Testing, adjusting, and balancing.

B. Adjust hardware for smooth operation.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution Requirements: Protecting installed construction.

B. Do not permit adjacent work to damage hardware or hardware finish.

HARDWARE SCHEDULE

HARDWARE SET NO. 1

1-1/2 Pair Hinges	TA2714 x 4.5 x 4.5	26D	McKinney
1 Doorseal	S88	D	Pemko
1 Wall Stop	WS401 CCV	26D	Ives
1 Lockset	ND50PD RHO	US26D	Schlage

HARDWARE SET NO. 2

1-1/2 Pair Hinges	TA2714 x 4.5 x 4.5	26D	McKinney
1 Doorseal	S88	D	Pemko
1 Lockset	ND50PD RHO	US26D	Schlage
1 Overhead Stop	450S series	26D	Glynn Johnson

HARDWARE SET NO. 3

1-1/2 Pair Hinges	TA2714 x 4.5 x 4.5	26D	McKinney
3 Silencers	SR 64	-	Ives
1 Privacy Lockset	ND40S RHO	26D	Schlage
1 Wall Stop	WS401 CCV	26D	Ives
1 Door Closer	Series 4031Pull	689	LCN

HARDWARE SET NO. 4

1-1/2 Pair Hinges	TA2714 x 4.5 x 4.5	26D	McKinney
1 Doorseal	S88	D	Pemko
1 Wall Stop	WS401 CCV	26D	Ives
1 Passage Set	ND10S RHO	US26D	Schlage

HARDWARE SET NO. 5

1-1/2 Pair Hinges	TA2714 x 4.5 x 4.5	26D	McKinney
3 Silencers	SR 64	-	Ives
1 Passage Set	ND10S RHO	US26D	Schlage
1 Overhead Stop	450S series	26D	Glynn Johnson

HARDWARE SET NO. 6

11/2 Pair Hinges	TA2314 x 4.5 x 4.5 NRP	USP	McKinney
1 Door Closer	Series 4031parallel/push	689	LCN
1 Threshold	171	A	Pemko
1 Set Weatherstrip	S88	D	Pemko
1 Door Bottom	315	C	Pemko
1 Rain Guard	R201	A	Reese
1 Lockset	ND50PD RHO	US26D	Schlage

HARDWARE SET NO. 7

3 Pair Hinges	TA2714 x 4.5 x 4.5	26D	McKinney
2 Dustproof Strike	DP2	26D	Ives
1 Set Silencers	SR 64	-	Ives
2 Wall Stops	WS401 CCV	26D	Ives
2 Exit Devices	9847WDC-L	26D	Von Duprin
2 Door Closer	Series 4031parallel/push	689	LCN

HARDWARE SET NO. 8

3 Pair Hinges	TA2714 x 4.5 x 4.5	26D	McKinney
1 Pair Flush Bolts	FB358	26D	Ives
1 Dummy Trim	ND170 RHO	26D	Schlage
1 Passage Set	ND10S RHO	26D	Schlage
1 Dust Strike	DP2	26D	Ives
1 Doorseal	S88	D	Pemko
1 Wall Stop	WS401 CCV	26D	Ives
1 Overhead Stop	450S series	26D	Glynn Johnson

HARDWARE SET NO. 9

3 Pair Hinges	TA2714 x 4.5 x 4.5	26D	McKinney
1 Set Silencers	SR 64	-	Ives
2 Door Closer	Series 4031parallel/push	689	LCN
2 Wall Stops	WS401 CCV	26D	Ives
2 Push Plates	70C	32D	Rockwood
2 Pull Plates	BF107 x 70C	32D	Rockwood

HARDWARE SET NO. 10

1 1/2 Pair Hinges	TA2714 x 4.5 x 4.5	26D	McKinney
1 Doorseal	S88	D	Pemko
1 Wall Stop	WS401 CCV	26D	Ives
1 Exit Device	98-L	26D	Von Duprin
1 Door Closer	Series 4031parallel/push	689	LCN
1 Electric Strike	6100 series 24 V		Von Duprin
1 Power supply	PS902		Von Duprin
1 Push to Open Button	FAS PGBUTTON03G		Magnetic locks.Net

HARDWARE SET NO. 11

Mastered keyed cylinders only.
Quantity, type, and finish as required.
Balance of hardware by the aluminum door manufacturer

END OF SECTION

SECTION 08 80 00

GLAZING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Glass and glazing for wood doors
2. Glass and glazing for metal doors Glass and glazing for aluminum entrances and storefronts
3. Glass glazing materials and installation requirements are included in this section for other sections referencing this section.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements
2. Section 01 33 00 - Submittal Procedures
3. Section 01 40 00 - Quality Requirements.
4. Section 07 90 00 - Joint Sealers
5. Section 08 12 14 - Standard Steel Frames
6. Section 08 14 16 - Flush Wood Doors: Glazed doors.
7. Section 08 41 13 - Aluminum Entrances and Storefronts.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI Z97.1 - Safety Glazing Materials Used in Buildings Safety.

B. ASTM International:
1. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
2. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
3. ASTM C1036 - Standard Specification for Flat Glass.
4. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
5. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
6. ASTM E774 - Standard Specification for Sealed Insulating Glass Units.

C. Glass Association of North America:
1. GANA - FGMA Sealant Manual
2. GANA - Glazing Manual.
3. GANA - Laminated Glass Design Guide

D. Sealed Insulated Glass Manufacturers Association.
1. SIGMA

E. National Fire Protection Association:
   1. NFPA 80 - Standard for Fire Doors, Fire Windows
   2. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies
   3. NFPA 257 - Standard on Fire Test for Window and Glass Block Assemblies.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data:
   1. Glass Types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements .
   2. Glazing Sealants, Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors where exposed

C. Samples:
   1. Glass: Submit two samples 12 x 12 inch in size, illustrating each glass and design.

D. Certificates: Certify products meet or exceed specified requirements for weather tightness.

E. Manufacturer's Certificate: Certify sealed insulated glass, meets or exceeds specified requirements.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with GANA Glazing Manual, GANA Sealant Manual, GANA Laminated Glass Design Guide, for glazing installation methods.

1.5 QUALIFICATIONS

A. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

1.6 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Do not install glazing when ambient temperature is less than 50 degrees F.

C. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.7 WARRANTY

A. Section 01 70 00 - Execution Requirements: Product warranties and product bonds.

B. Provide a five year warranty to include coverage for sealed glass units from seal failure, interpane dusting or misting, and replacement of same.

PART 2 PRODUCTS

2.1 FLAT GLASS MATERIALS

A. Manufacturers:
1. Guardian Industries Corporation
2. HGP Industries
3. Viracon.

B. Safety Glass: Conform to ANSI Z97.1, minimum 1/4 inch unless otherwise indicated.
1. Clear Tempered Glass (Type G-3): ASTM C1048, Kind FT Fully tempered, Condition A, uncoated, Type 1 transparent flat, Clear; with horizontal tempering. Must bear permanent UL label.

2.2 SEALED INSULATING GLASS MATERIALS

A. Manufacturers:
1. Guardian Industries Corporation.
2. HGP Industries.
3. Libby Owens Ford.
4. Viracon, Inc.

B. Insulated Glass Units:
1. Insulated Glass Units (Type G-2): Total unit thickness 1 inch.
   a. Double Pane Insulated Glass Units: ASTM E774 Class A; Low E coated with manufacturer's standard edge seal; 1/4 inch glass, 1/2 inch air space, 1/4 inch glass; purge interpane space with dry hermetic air. Clear. Outer Pane: Glass Type: 1/4 inch tempered. Inner Pane: 1/4 inch tempered.
2. Insulated Glass Units (Type G-1): Total unit thickness 1 inch.
   a. Double Pane Insulated Glass Units: ASTM E774 Class A; Low E coated with manufacturer's standard edge seal; 1/4 inch glass, 1/2 inch air space, 1/4 inch glass; purge interpane space with dry hermetic air. Clear Outer Pane: Glass Type: 1/4 inch annealed. Inner Pane: 1/4 inch Annealed.
3. Insulated Glass Units (Type G-4): Total unit thickness 1 inch.
   a. Double Pane Insulated Glass Units: ASTM E774 Class A; Low E coated with manufacturer's standard edge seal; 3/16 inch glass, 5/8 inch air spaces; purge interpane space with dry hermetic air. Clear. Outer Pane: Glass Type: 3/16 inch tempered. Inner Pane: 3/16 inch tempered.
4. Insulated Glass Units (Type G-5): Total unit thickness 3/4 inch.
   a. Double Pane Insulated Glass Units: ASTM E774 Class A; with manufacturer's standard edge seal; 1/8 inch glass, 1/2 inch air spaces;

purge interpane space with dry hermetic air. Clear. Outer Pane: Glass Type: 1/8 inch tempered. Inner Pane: 1/8 inch tempered.

5. Insulated Glass Units (Type G-6): Total unit thickness 3/4 inch.
   a. Double Pane Insulated Glass Units: ASTM E774 Class A; with manufacturer's standard edge seal; 1/8 inch glass, 1/2 inch air spaces; purge interpane space with dry hermetic air.. Outer Pane: Glass Type: 1/8 inch tempered frosted. Inner Pane: 1/8 inch tempered frosted.

2.3 GLAZING MATERIALS

A. Select glazing sealants, tapes, setting blocks, compression gaskets, and glazing clips of proven compatibility with other materials with which they will come into contact, including glass products, seals of insulating glass units, and glazing channel substrates, under conditions of installation and service, as demonstrated by testing and field experience.

B. Comply with recommendations of sealant and glass manufacturers for selection of glazing methods and materials which have performance characteristics suitable for applications indicated and conditions at time of installation.

C. Provide manufacturer's standard chemically curing elastomeric sealant which complies with ASTM C920 requirements.

D. Provide color of exposed sealants as selected by Architect from manufacturer's standard colors.

2.4 MISCELLANEOUS GLAZING MATERIALS

A. Provide materials with proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Type recommended by sealant or gasket manufacturer.

C. Setting Blocks: Neoprene, EPDM or Silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.

D. Spacers: Neoprene, EPDM or Silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.

E. Edge Blocks: Neoprene, EPDM or Silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.

F. Compressible Filler Rods: Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, flexible and resilient, with 5-10 psi compression strength for 25 percent deflection.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify openings for glazing are correctly sized and within acceptable tolerance.

C. Verify surfaces of glazing channels or recesses are clean, free of obstructions impeding moisture movement, weeps are clear, and ready to receive glazing.

3.2 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant.

D. Install sealant in accordance with manufacturer's instructions.

3.3 GLAZING, GENERAL

A. Comply with combined printed recommendations of glass manufacturers, manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including those of referenced glazing standards.

B. Protect glass from edge damage during handling and installations; use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar. Rotate glass with flares or bevels along one horizontal edge which would occur in vicinity of setting blocks so that these are located at top of opening. Remove from project and dispose of glass units with edge damage or other imperfections of kind that, when installed, weakens glass and impairs performance and appearance.

C. Apply primers to joint surfaces where required for adhesion of sealants.

3.4 GLAZING

A. Install setting blocks of proper size in sill rabbet, located one quarter of glass width from each corner, but with edge nearest corner not closer than 6 inches from corner, unless otherwise required. Set blocks in thin course of sealant which is acceptable for heel bead use.

B. Provide spacers inside and out, of correct size and spacing to preserve required face clearances, for glass sizes larger than 50 united inches (length plus height), except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8

inch minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.

C. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.

D. Provide compressible filler rods or equivalent back-up material, as recommended by sealant and glass manufacturers, to prevent sealant from extruding into glass channel weep systems and from adhering to joints back surface as well as to control depth of sealant for optimum performance, unless otherwise indicated.

E. Force sealants into glazing channels to eliminate voids and to ensure complete “wetting” or bond of sealant to glass and channel surfaces.

F. Tool exposed surfaces of sealants to provide a substantial “wash” away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.

G. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not “walk” out when installation is subjected to movement.

H. Miter cut wedge-shaped gaskets at corners and install gaskets in manner recommended by gasket manufacturer to prevent pull away at corners; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.5 CLEANING

A. Section 01 70 00 - Execution Requirements: Final cleaning.

B. Remove glazing materials from finish surfaces.

C. Remove labels after Work is complete.

D. Clean glass and adjacent surfaces.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution Requirements: Protecting installed construction.

B. After installation, mark pane with an 'X' by using removable plastic tape or paste.

END OF SECTION

SECTION 08 88 10

FIRE ATED GLASS & FRAMING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. GPX Architectural Series Framing fire resistive, temperature rise, framing system with decorative cladding for 60 minute exterior applications.
   2. Applications of fire rated framing includes:
      a. windows

B. Related Requirements:
   1. Section 05 50 00 - Metal Fabrications: Steel lintels.
   2. Section 06 10 00 - Rough Carpentry: Wood framed openings.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. ASTM E119 Methods for Fire Tests of Building Construction and Materials.
   2. ASTM E163 Methods for Fire Tests of Window Assemblies.
   3. ASTM E2110-1: Standard Test for Positive Pressure of Fire Tests of Window AssemblieS

B. National Fire Protection Association (NFPA):
   1. NFPA 80: Fire Doors and Windows.
   2. NFPA 251: Fire Tests of Building Construction and Materials.
   3. NFPA 257: Fire Tests of Window Assemblies.

C. Underwriters Laboratories, Inc. (UL):
   1. UL 9: Standard for Safety of Fire Tests of Window Assemblies.
   2. UL 263: Fire Tests of Building Construction and Materials.

D. Standard Council of Canada (ULC):
   1. ULC Standard CAN4-S101: Fire Tests of Building Construction and Materials.
   2. ULC Standard CAN4-S106: Fire Tests of Window Assemblies.

E. Consumer Product Safety Commission (CPSC):
   1. CPSC 16 CFR 1201: Safety Standard for Architectural Glazing Materials.

F. Glass Association of North America (GANA)
   1. GANA – Glazing Manual.
   2. FGMA – Sealant Manual.

G. American Recovery and Reinvestment Act

1. Section 1605, Title XVI Buy American Provision]

1.3 SYSTEM DESCRIPTION

A. Performance Requirements:
   1. Fire Rating: 60 minutes as specified.
   2. Fire Resistive Wall Assembly Certifications: 60-120 minute fire resistive wall assemblies tested in accordance with ASTM E119, NFPA 251, UL 263 and ULC-S101.
   3. Testing Laboratory: Fire test shall be conducted by a nationally recognized independent testing laboratory.

B. Listings and Labels:
   1. Fire rated framing system shall be under current follow-up service by a nationally recognized independent laboratory approved by OSHA and maintain a current listing or certification. Assemblies shall be labeled in accordance with limits of listings.

C. Appearance:
   1. Fire rated wall/door assembly shall have a neat finished appearance with minimum joints at decorative cover intersections.

1.4 SUBMITTALS

A. Submit listed submittals in accordance with Conditions of the Contract and Division 1 submittalProcedure Section.
   1. Shop Drawings: Submit shop drawings showing layout, profiles and product components.
   2. Samples: Submit samples for finishes, colors and textures.
   3. Technical Information: Submit latest edition of manufacturer's product data providing product descriptions, technical data and installation instructions.

1.5 DELIVERY, STORAGE AND HANDLING

A. General: Comply with Division1 Product Requirements Sections.

B. Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

C. Delivery: Deliver materials to specified destinations in manufacturer's or distributor's packaging undamaged, complete with installation instructions.

D. Storage and Protection: Store off ground, under cover, protected from weather and construction activities and at temperature conditions recommended by manufacturer.

1.6 FABRICATION DIMENSIONS

A. Field Measurements: Verify actual measurements for openings by field measurements before fabrication. Show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.7 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document. Manufacturer's warranty is not intended to limit other rights that the Owner may have under the Contract Documents
1. Warranty Period: 5 years from date of shipping.

PART 2 PRODUCTS

2.1 MANUFACTURERS – FIRE RATED (DOOR) (OPENING) (WALL ASSEMBLY)

A. Manufacturer of Framing System: GPX Architectural Series Framing as manufactured and distributed by SAFTI *FIRST*™ Fire Rated Glazing Solutions
1. Contact: 100 N Hill Drive, Suite 12, Brisbane, CA 94005; Telephone 888.653. 3333; Fax 888.653.4444; email info@safti.com; Web site www.safti.com

B. Manufacturer of Glazing Material: (SuperLite™ II-XL) (SuperLite™ II-XL IGU) as manufactured and distributed by SAFTI *FIRST*™ Fire Rated Glazing Solutions.
1. Contact: 100 N Hill Drive, Suite 12, Brisbane, CA 94005; Telephone 888.653. 3333; Fax 888.653.4444; email info@safti.com; Web site www.safti.com

C. Fire rated glass and framing must be provided by a single-source, US manufacturer. Distributors of fire rated glass and framing are not to be considered as manufacturers.

D. Substitutions: allowed.

2.2 MATERIALS – FRAMING

A. Fire resistive, temperature rise framing system rated 60 minutes.

B. Properties:
1. Frame thickness: 4-1/2".
2. Internal framing: Internal tube steel framing shall conform to ASTM A501. Formed steel retainers shall be galvanized conforming to ASTM A527.
3. Insulation: The framing system shall insulate against the effects of fire, smoke and heat transfer from either side. The perimeter of the framing system to the rough opening shall be firmly packed with mineral wool fire stop insulation or appropriately rated intumescent sealant.

4. Fasteners: Type recommended by manufacturer.
5. Framing covers: Powder coated extruded aluminum alloy 6063-T5 (standard) or aluminum alloy 5052 when anodized.
6. Glazing accessories: The glazing material perimeter shall be separated from the perimeter framing system with approved flame retardant glazing tape. The SuperLite™ glazing panel shall be caulked continuously around the edge to the tube steel frame utilizing neutral cure silicone.

2.3 MATERIALS – GLASS (G7)

A. Assemblies shall be glazed with SuperLite™ glazing products.
   1. SuperLite™ II-XL IGU.

B. Properties:
   1. Individual Lites shall be permanently identified with a listing mark.
   2. Temperature rise on the unexposed side of glazing material shall be limited to 250 degrees Fahrenheit when required.

C. Logo: Each piece of fire rated glazing shall be labeled with a permanent logo.

2.4 FABRICATION

A. Assemblies shall be furnished knocked down for field assembly and will be glazed in the field or assembled (should configurations and job site conditions allow

B. Fabrication Dimensions: Fabricate to approved dimensions. The general contractor shall guarantee dimensions within required tolerance. Obtain approved shop drawings prior to fabrication.

2.5 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designing finishes.

B. Covers shall be chemically cleaned and pretreated; then, finished with:
   1. High Performance Fluoropolymer Finish by PPG. Solid color shall match Aluminum Storefront finish as specified in Section 08 41 13.

C. Protect finishes on exposed surfaces from damage by applying strippable, temporary protective covering before shipping.

D. Variations in appearance of abutting or adjacent pieces are acceptable. Noticeable variations in the same piece are not acceptable.

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with manufacturer's product data including product technical bulletins and installation instructions.

3.2 EXAMINATION

A. Site Verification of Conditions: Verify substrate conditions, have been previously installed under other sections, and are acceptable for product installation in accordance with manufacturer's instructions. Openings shall be plumb, square and within allowable tolerances. The Architect/Engineer shall be notified of any conditions that jeopardize the integrity of the proposed fire wall/door framing system. Do not proceed until such conditions are corrected.

3.3 INSTALLATION

A. Fire wall/door installation shall be by a licensed contractor and in strict accordance with the approved shop drawings.

3.4 CLEANING AND PROTECTION

A. Protect glass from contact with contaminating substances resulting from construction operations. Remove such substances by method approved by manufacturer.

B. Wash glass on both faces not more than four days prior to date schedule for inspections intended to establish date of Substantial Completion. Wash glass by method recommended by glass manufacturer.

C. Remove temporary coverings and protection of adjacent work areas.

D. Remove construction debris from project site and legally dispose of debris.

END OF SECTION

SECTION 09 21 16

GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Metal furring.
2. Gypsum board and joint treatment.
3. Gypsum sheathing.
4. Acoustic insulation.
5. Expansion/control joints.
6. Cementitious Backerboard

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements
4. Section 06 10 00 - Rough Carpentry.
5. Section 06 10 53 - Wood Blocking and Curbing:
6. Section 07 21 13 - Board Insulation.
7. Section 07 24 00 - Exterior Insulation and Finish Systems.
8. Section 07 26 00 - Vapor Retarders
9. Section 07 53 03 - Elastomeric Membrane Roofing - Fully Adhered.
10. Section 07 84 00 - Firestopping.
11. Section 07 90 00 - Joint Sealers.
12. Section 08 12 14 - Standard Steel Frames.
13. Section 08 31 13 - Access Doors and Panels: Metal access panels.
14. Section 09 30 00 - Tiling.
15. Section 09 65 00 - Resilient Flooring.
17. Section 09 90 00 - Painting and Coating: Surface finish.

C. Any gypsum wallboard that gets wet must be replaced. Any mold identified must be remediated by General Contractor by industry guidelines at Contractor's expense.

1.2 REFERENCES

A. ASTM International:
1. ASTM C36C36M - Standard Specification for Gypsum Wallboard.
2. ASTM C79/C79M - Standard Specification for Gypsum Sheathing Board.
3. ASTM C442/C442M - Standard Specification for Gypsum Backing Board and Coreboard.
4. ASTM C475 - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.

5. ASTM C630/C630M - Standard Specification for Water-Resistant Gypsum Backing Board.
6. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members.
7. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
8. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board
9. ASTM C931/C931M - Standard Specification for Exterior Gypsum Soffit Board.
10. ASTM C1002 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases.
11 ASTM C1280 - Standard Specification for Application of Gypsum Sheathing.
12. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
13. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
14. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

B. Gypsum Association:
1. GA 214 - Recommended Levels of Gypsum Board Finish.
2. GA 216 - Application and Finishing of Gypsum Board.
3. GA 600 - Fire Resistance Design Manual Sound Control.

C. Intertek Testing Services (Warnock Hersey Listed):
1. WH - Certification Listings.

D. National Fire Protection Association:
1. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.

E. Underwriters Laboratories Inc.:
1. UL - Fire Resistance Directory.
2. UL 723 - Tests for Surface Burning Characteristics of Building Materials.

F. South Coast Air Quality Management District:
1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on metal framing, gypsum board, joint tape and compound., texture finish materials, and all accessories.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ASTM C840, ASTM C1280, GA-214, GA-216, and GA-600.

B. Maintain one copy of each document on site. Refer to drawings for specific locations where GA-600 and UL numbers apply.

1.5 QUALIFICATIONS

A. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

PART 2 PRODUCTS

2.1 GYPSUM BOARD ASSEMBLIES

A. Manufacturers:
1. G-P Gypsum Corp.
2. United States Gypsum Co.
3. Gold Bond Building Products.

B. Substitutions: Section 01 60 00 - Product Requirements. Substitutions permitted.

2.2 COMPONENTS

A. Framing Materials:
1. Fasteners: Drywall screws meeting ASTM C1002 of proper length for attachment being made.
2. Furring Channels at Exterior wall: 1 ½ Inch Z furring channels.
3. Fasteners and ceiling hanging wire for pool room drywall shall be stainless steel or hot dipped galvanized.
4. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

B. Gypsum Board Materials:
1. Fire Rated Gypsum Board: ASTM C36/C36M; fire resistive Type X or C, UL rated as scheduled; 5/8 inch thick, maximum available length in place; ends square cut, tapered edges.
2. Cementitious Backer Board: ASTM C1178; Dens-Shield, 5/8 inch thick, as manufactured by Georgia-Pacific.
3. Gypsum Roof Board: Dens-Deck Prime ASTM C1177, 1/2 inch thick, as manufactured by Georgia-Pacific.

2.3 ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced, thickness as shown on drawings.

B. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board; AC-20 manufactured by Pecora Corp.

C. Corner Beads: Metal or paper which is to be used at returns at windows and all outside corners.

D. Edge Trim: GA-216 and GA-201; Type LC bead.

E. Joint Materials: ASTM C475; joint compound, adhesive, and water.

F. Patching Compound: Durabond 90 Joint Compound as manufactured by U. S. Gypsum Co.

G. Fasteners: ASTM C1002, Screw Type as required by manufacturer for proper attachment to supporting substrate.

H. Expansion/control joints.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

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

3.2 INSTALLATION

A. Wall Furring Installation:
1. Erect wall furring for direct attachment to concrete masonry walls.
2. Erect furring channels vertically; space maximum as shown on drawings.
3. Secure in place on alternate channel flanges at maximum 24 inches on center.
4. Shim as required to maintain wall plane tolerances.

B. Expansion/Control Joints:
1. Control joints to be installed in ceilings exceeding 2500 sq ft in area and in partition, wall and wall furring runs exceeding 30 feet. Distance between ceiling control joints are not to exceed 50 ft in either direction, and a control joint should be installed where ceiling framing or furring changes direction. Distance between control joints in walls or wall furring should not exceed 30 ft and a control joint should be installed where an expansion joint occurs in base exterior wall. Wall or partition height door frames may be considered a control joint.

Whenever possible, control joints should coincide with any building control joints.

2. See drawings for expansion/control joint installation details.

3.3 ACOUSTIC ACCESSORIES INSTALLATION

A. Install resilient channels at maximum 24 inches on center. Locate joints over framing members.

B. Place acoustic insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions, and tight to items passing through partitions.

C. Install acoustic sealant within partitions in accordance with manufacturer's instructions.

D. Install acoustic sealant at gypsum board perimeter at:
1. Metal Framing: Two beads.
2. Seal penetrations of partitions by conduit, pipe, duct work, rough-in boxes, and accessories.

3.4 GYPSUM BOARD INSTALLATION

A. Install gypsum board in accordance with GA-216, and UL Fire Resistance Directory where applicable. Non-rated applications per manufacturer's instructions.

B. Erect single layer standard gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Use screws when fastening gypsum board to metal furring or framing.

D. Erect multiple layers in accordance with GA-600 or UL Fire Resistance Directory.

E. Treat cut edges and holes in moisture resistant gypsum board and exterior gypsum soffit board with sealant.

F. Place expansion/control joints in accordance with manufacturer's instructions.

G. Place corner beads at external corners. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials.

3.5 JOINT TREATMENT

A. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes. Finish in accordance with GA214 Level 4.

B. Feather coats on to adjoining surfaces so that camber is maximum 1/16 inch.

C. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile except at fire rated walls.

3.6 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation of Finished Gypsum Board Surface from Flat Surface: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 30 00

TILING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes ceramic tile for floor and wall applications; thresholds at door openings; and ceramic accessories.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 07 90 00 - Joint Protection.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI A108.1 - Installation of Ceramic Tile, A collection.
2. ANSI A108.5 - Specifications for Ceramic Tile Installed with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
3. ANSI A108.6 - Specifications for Ceramic Tile Installed with Chemical-Resistant, Water-Cleanable Tile-Setting and -Grouting Epoxy.
4. ANSI A108.9 - Specifications for Ceramic Tile Installed with Modified Epoxy Emulsion Mortar/Grout.
5. ANSI A108.10 - Specifications for Installation of Grout in Tilework.
6. ANSI A118.1 - Standard Specification for Dry-Set Portland Cement Mortar.
7. ANSI A118.3 - Chemical-Resistant, Water-Cleanable, Tile-Setting and -Grouting Epoxy and Water-Cleanable Tile-Setting Epoxy Adhesive.
8. ANSI A118.4 - Latex-Portland Cement Mortar.
9. ANSI A118.6 - Ceramic Tile Grouts.
10. ANSI A137.1 - Ceramic Tile.

B. Tile Council of America:
1. TCA - Handbook for Ceramic Tile Installation.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit instructions for using grouts.

C. Samples: Submit tile and grout samples illustrating pattern and color variations.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with TCA Handbook and ANSI A108 Series/A118 Series.

1.6 QUALIFICATIONS

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

B. Installer: Company specializing in performing Work of this section with minimum three years experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Protect adhesives and grouts from freezing or overheating.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Do not install adhesives and grouts in unventilated environment.

C. Maintain ambient and substrate temperature of 50 during installation of mortar materials.

1.9 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.

B. Supply three percent of each size, color, and surface finish of tile specified.

PART 2 PRODUCTS

2.1 TILE

A. Manufacturers and models scheduled on drawing.

2.2 COMPONENTS

A. Ceramic Tile: ANSI A137.1,

B. Ceramic Wall Tile: ANSI A137.1,:

C. Base: Same as floor tile.

2.3 ACCESSORIES

A. Mortar Materials:
   1. Mortar Bond Coat Materials:
      a. Dry-Set Portland Cement type: ANSI A118.1.
      b. Latex-Portland Cement type: ANSI A118.4.

B. Grout Materials:
   1. Epoxy Grout: ANSI A118.3
   2. Fusionpro: Custom Building Products

C. Crack Suppression/Waterproofing Membrane at Floors:
   1. Red Guard: Custom Building Products

D. Tile Floor Edging: Manufacturer- Schluter
   1. Ceramic Tile to Carpet: Schluter-Reno-TK
   2. Ceramic Tile to VCT: Schluter-Reno U
   3. Ceramic Tile to Concrete: Schluter Reno U
   4. Ceramic tile transition strip interior and exterior: Schluter Schiene
   5. Confirm finish selection with Architect.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify surfaces are ready to receive work.

3.2 PREPARATION

A. Protect surrounding work from damage.

B. Vacuum clean surfaces.

C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

D. Install cementitious backer board. Tape joints and corners, cover with skim coat of dry-set mortar to feather edge.

E. Field applied temporary protective coating. Coat tile per manufacturer's instructions.
1. Grout release.

3.3 INSTALLATION

A. Install tile, thresholds, and grout in accordance with applicable requirements of ANSI A108.1 through A108.10, and TCA Handbook recommendations.

B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.

C. Place thresholds and edge strips at exposed tile edges and locations indicated.

D. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor, base and wall joints.

E. Place tile with joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.

F. Form internal angles coved and external angles bullnosed.

G. Install ceramic accessories rigidly in prepared openings.

H. Sound tile after setting. Replace hollow sounding units.

I. Keep control joints free of adhesive or grout.

J. Allow tile to set for a minimum of 48 hours prior to grouting.

K. Grout tile joints.

L. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

M. Installation - Floors - Thin-Set Methods:
1. Over interior concrete substrates, install in accordance with TCA Handbook Method F122. Install epoxy grout in accordance with TCA handbook method F115

N. Installation - Wall Tile:
1. Over cementitious backer units install in accordance with TCA Handbook Method W244.

3.4 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements ; Final cleaning.

B. Clean tile and grout surfaces.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution and Closeout Requirements : Protecting installed construction.

B. Do not permit traffic over finished floor surface for 4 days after installation.

3.6 SCHEDULES

A. Crack Suppression membrane to be installed under all tile installed on cast in place concrete.

END OF SECTION

SECTION 09 51 13

ACOUSTICAL PANEL CEILINGS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Suspended metal grid ceiling system and perimeter trim.
2. Acoustic tile panels.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 07 90 00 - Joint Protection.
4. Section 08 31 13 - Access Doors and Frames: Access panels.
5. Section 23 37 00 - Air Outlets and Inlets: Air diffusion devices in ceiling system.
6. Section 26 51 00 - Interior Lighting: Light fixtures in ceiling system.

1.2 REFERENCES

A. ASTM International:
1. ASTM C635 - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
2. ASTM C636 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
5. ASTM E580/E580M - Standard Practice for Application of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Requiring Seismic Restraint.
6. ASTM E1264 - Standard Classification for Acoustical Ceiling Products.

B. Ceilings and Interior Systems Construction Association:
1. CISCA - Acoustical Ceilings: Use and Practice.

C. Intertek Testing Services (Warnock Hersey Listed):
1. WH - Certification Listings.

D. National Fire Protection Association:
1. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth.

E. Underwriters Laboratories Inc.:

1. UL - Fire Resistance Directory.

1.3 PERFORMANCE REQUIREMENTS

A. Suspension System: Rigidly secure acoustic ceiling system including integral mechanical and electrical components with maximum deflection of 1: 240.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit data on metal grid system components and acoustic units.

1.5 QUALITY ASSURANCE

A. Conform to CISCA requirements.

B. Surface Burning Characteristics: Maximum 75/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

1.6 QUALIFICATIONS

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

B. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

1.7 REGULATORY REQUIREMENTS

A. Conform to applicable codes for combustibility requirements for materials.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

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

1.9 SEQUENCING

A. Section 01 10 00 - Summary: Work sequence.

B. Sequence Work to ensure acoustic ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.

C. Install acoustic units after interior wet work is dry.

1.10 EXTRA MATERIALS

A. Section 01 70 00 - Execution Requirements: Spare parts and maintenance products.

B. Provide extra acoustical ceiling system materials in unopened, clearly marked cartons equivalent to 1 to 2 percent of each size and pattern of acoustical panel installed and 12 pieces each 48 inch tees and 24 inch tees.

PART 2 PRODUCTS

2.1 SUSPENDED ACOUSTICAL CEILINGS

A. Manufacturers: Suspension system
1. Armstrong Contract Interiors: Prelude Exposed Tee Grid.

B. Substitutions: Section 01 60 00 - Product Requirements: Substitutions permitted.

C. Non-fire Rated Grid: ASTM C635, intermediate duty; exposed T.

D. Exposed Grid Surface Width; 15/16 inch prelude grid.

E. Grid finish: Match panel color.

F. Accessories: Stabilizer bars, clips, splices, perimeter moldings, and hanger wire required for suspended grid system.
1. Hanger Wire: ASTM A 641, Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least time three design load, but not less than 12 gauge.

G. Support Channels and Hangers: Galvanized steel; size and type to suit application, and ceiling system flatness requirement specified.

2.2 ACOUSTIC UNIT MATERIALS

A. Armstrong
1. Dune angled tegular 1774, White 24” x 24”
2. Dune angled tegular 1776, White 24” x 48”
3. Dune angled tegular 12” wide x 48” long.

2.3 ACCESSORIES

A. Touch-up Paint: Type and color to match acoustic and grid units.

2.4 METAL EDGE MOLDINGS AND TRIM.

A. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with

seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension system runners.

1. Provide manufacturer's standard edge moldings that fit acoustical tile edge details and suspension systems indicated and that match width and configuration of exposed runners, unless otherwise indicated.
    a. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify layout of hangers will not interfere with other work.

3.2 INSTALLATION

A. Lay-In Grid Suspension System:
1. Install suspension system in accordance with ASTM C636 and as supplemented in this section.
2. Install system capable of supporting imposed loads to deflection of 1/240 maximum.
3. Lay out system to balanced grid design with edge units no less than 50 percent of acoustic unit size.
4. Install after major above ceiling work is complete. Coordinate location of hangers with other work.
5. Hang suspension system independent of walls, columns, ducts, pipes and conduit.
6. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
7. Where ducts or other equipment prevent regular spacing of hangers, reinforce nearest affected hangers and related carrying channels to span extra distance.
8. Do not support components on main runners or cross runners when weight causes total dead load to exceed deflection capability. Support fixture loads by supplementary hangers located within 6 inches of each corner; or support components independently.
9. Do not eccentrically load system, or produce rotation of runners.
10. Perimeter Molding:
    a. Install edge molding at intersection of ceiling and vertical surfaces.
    b. Use longest practical lengths.
    c. Miter corners.
    d. Install at junctions with other interruptions.

B. Acoustic Units:
1. Install acoustic units in accordance with manufacturer’s instructions.
2. Fit acoustic units in place, free from damaged edges or other defects detrimental to appearance and function.

3. Lay directional patterned units one way with pattern parallel to longest room axis. Fit border trim neatly against abutting surfaces.
4. Install units after above ceiling work is complete.
5. Install acoustic units level, in uniform plane, and free from twist, warp, and dents.
6. Cutting Acoustic Units:
   a. Cut to fit irregular grid and perimeter edge trim.

3.3 ERECTION TOLERANCES

A. Section 01 40 00 - Quality Requirements: Tolerances.

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

C. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 09 65 00

RESILIENT FLOORING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes; resilient tile flooring; resilient base.

B. Related Sections:
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.
4. Section 03 30 00 - Cast in Place Concrete.
5. Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

A. ASTM International:
1. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile.
2. ASTM F1861 - Standard Specification for Resilient Wall Base.

B. Federal Specification Unit:
1. FS L-F-475 - Floor Covering Vinyl, Surface (Tile and Roll), with Backing.

C. National Fire Protection Association:
1. NFPA 253 - Standard Method of Test for Critical Radiant Flux for Floor Covering Systems Using a Radiant Heat Energy Source.

D. South Coast Air Quality Management District:
1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate seaming plan, custom patterns and inlay designs.

C. Product Data: Submit data describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

D. Samples:
1. Submit manufacturer's complete set of color samples for initial selection.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.5 QUALIFICATIONS

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

B. Installer: Company specializing in performing Work of this section with minimum three years experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Protect roll materials from damage by storing on end.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements

B. Maintain temperature in storage area between 55 degrees F and 90 degrees F.

C. Store materials for not less than 48 hours prior to installation in area of installation at temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

1.8 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements; Spare parts and maintenance products.

B. Furnish 10 sq ft of flooring, 10 lineal feet of base, of each type and color specified.

PART 2 PRODUCTS

2.1 TILE FLOORING

A. Manufacturer: Kardean
1. Texo; Sp718

B. Others TBD

2.2 RESILIENT BASE

A. Manufacturers:
1. TBD

B. Base: TBD

C. Accessories: Pre-molded external corners.

2.3 ACCESSORIES

A. Subfloor Filler: type recommended by adhesive material manufacturer.

B. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer.

C. Moldings and Edge Strips: Extruded aluminum or as shown on drawings.

D. Sealer and Wax: Types recommended by flooring manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify concrete floors are dry to maximum moisture content of 7 percent, and exhibit negative alkalinity, carbonization, and dusting.

C. Verify floor and lower wall surfaces are free of substances capable of impairing adhesion of new adhesive and finish materials.

3.2 PREPARATION

A. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.

B. Prohibit traffic until filler is cured.

C. Clean substrate.

D. Apply primer as required to prevent "bleed-thru" or interference with adhesion by substances cannot be removed. Apply primer to substrate surfaces if recommended by manufacturer.

3.3 INSTALLATION - TILE FLOORING

A. See manufacturer’s instructions.

B. Mix tile from container to ensure shade variations are consistent when tile is placed.

C. Lay flooring with joints and seams parallel to building lines to produce symmetrical tile pattern.

D. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

E. Where floor finishes are different on opposite sides of door, terminate flooring under centerline of door.

F. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated. Secure metal strips after installation of flooring with stainless steel screws.

G. Install flooring in recessed floor access covers. Maintain floor pattern.

H. At movable partitions, install flooring under partitions without interrupting floor pattern.

I. Set flooring and press with heavy roller.

3.4 INSTALLATION - BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 24 inches between joints.

B. Miter internal corners. At external corners, use premolded units. At exposed ends, use premolded units.

C. Install base on solid backing. Bond tightly to wall and floor surfaces.

D. Scribe and fit to door frames and other interruptions.

3.5 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements; Final cleaning.

B. Remove excess adhesive from floor, base, and wall surfaces without damage.

C. Clean, seal, and maintain resilient flooring products.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution and Closeout Requirements: Protecting installed construction.

B. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 09 68 16

CARPET TILE

PART 1 GENERAL

1.1 SUMMARY

A. Section includes carpet direct-glued to substrate; accessories.

B. Related Sections:
1. Section 01 20 00 - Price and Payment Procedures: Allowances
2. Section 01 30 00 – Administrative Requirements.
3. Section 01 33 00 – Submittal Procedures.
4. Section 01 40 00 – Quality Requirements.
5. Section 03 30 00 – Cast in Place Concrete.
6. Section 09 65 00 – Resilient Flooring.

1.2 QUALITY ASSURANCE

A. Surface Burning Characteristics:
1. CPSC 16 CFR 1630.

1.3 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Store materials in area of installation for 24 hours prior to installation.

1.4 QUALITY ASSURANCE

A. Surface Burning Characteristics
1. CPSC 16 CFR 1630.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Store materials in area of installation for 24 hours prior to installation.

PART 2 PRODUCTS

2.1 MATERIALS

A. Carpeting
1. Styles TBD

B. Termination trim: Provided by installer.
   1. Material: Rubber.
   2. Color: As selected by Architect.

C. Sub-floor filler: Provided by installer.

D. Cushion Seam Tape: Provided by installer.

E. Adhesive: Provided by installer.

PART 3 EXECUTION

3.1 GENERAL

A. Labor for installing carpet to include unloading carpet from delivery trailer and placing in storage trailer; moving from storage trailer into building for installation. Any equipment required for moving carpet shall be provided by installer.

3.2 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify that floor surfaces are smooth and flat within tolerances specified in Section 03 54 00 and Section 03 30 00 and are ready to receive work.

3.3 PREPARATION

A. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.

B. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

C. Clean substrate.

3.4 INSTALLATION - GLUE DOWN CARPET

A. Direct Glue-Down Installation of carpet:
   1. Apply contact adhesive to floor uniformly at rate recommended by manufacturer.
   2. After sufficient open time, press carpet into adhesive.
   3. Apply seam adhesive. Lay adjoining piece with seam straight, not overlapped or peaked, and free of gaps.
   4. Roll with appropriate roller for complete contact of adhesive to carpet backing.

3.5 CLEANING

A. Section 01 70 00 - Execution Requirements: Final cleaning.

B. Remove excess adhesive without damage, from floor, base, and wall surfaces.

C. Clean and vacuum carpet surfaces.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 70 00 - Execution Requirements: Protecting installed construction.

B. Do not permit traffic over unprotected floor surface.

C. Cover carpeting in traffic areas with protective non-staining building paper. Do not use plastic sheeting.

END OF SECTION

SECTION 09 72 00

WALL COVERINGS

PART 1 GENERAL

1.1 SUMMARY

A. This section is included to be used if Add Alternate No. 2 is accepted.

B. Section includes surface preparation and prime painting, wall covering and borders.

C. Related Sections:
1. Section 01 20 00 - Price and Payment Procedures: Add Alternate No.2.
2. Section 01 30 00 – Administrative Requirements
3. Section 01 40 00 – Quality Requirements.
4. Section 09 21 16 – Gypsum Board Assemblies.
5. Section 09 90 00 - Painting and Coating: Preparation and priming of substrate surfaces.

1.2 QUALIFICATIONS

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

PART 2 PRODUCTS

2.1 WALL COVERING

A. Styles to be chosen by Architect.

2.2 COMPONENTS

A. Adhesive:
1. Type recommended by covering manufacturer to suit application to substrate.

B. Termination Trim: Extruded plastic provided by installer.

C. Substrate Filler: As recommended by adhesive and covering manufacturers.

D. Primer: as recommended by manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements; Coordination and project conditions.

B. Verify substrate surfaces are prime painted and ready to receive work, and conform to requirements of covering manufacturer.

C. Measure moisture content of surfaces using electronic moisture meter. Do not apply coverings unless moisture content of surfaces are below the following maximums:
1. Gypsum Wallboard: 12 percent.

D. Verify flatness tolerance of surfaces does not vary more than 1/8 inch in 10 feet nor vary at rate greater than 1/16 inch/ft .

3.2 PREPARATION

A. Fill cracks in substrate and smooth irregularities with filler; sand smooth.

B. Surface Appurtenances: Remove electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

C. Surfaces: Correct defects and clean surfaces which affect work of this section.

D. Marks: Seal with shellac those which may bleed through surface finishes.

E. Apply primer sealer to substrate surfaces. Allow to dry. Lightly sand smooth.

F. Vacuum clean surfaces free of loose particles.

3.3 INSTALLATION

A. Apply adhesive to wall covering surface immediately prior to application of covering.

B. Use covering in pattern sequence.

C. Razor trim edges on flat work table, changing blade often to prevent rough cut edges. Do not razor cut on gypsum board surfaces.

D. Apply covering smooth, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface. Butt edges tight.

E. Horizontal seams are not acceptable.

F. Do not seam within 2 inches of internal corners or within 6 inches of external corners.

G. Install covering before installation of bases, cabinets, hardware, or items attached to or spaced slightly from wall surface.

H. Cover spaces above and below windows, above doors, in pattern sequence from roll.

I. Install termination trim.

J. Remove excess adhesive while wet from seam before proceeding to next covering sheet. Wipe clean with dry cloth.

3.4 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

B. Clean coverings of excess adhesive, dust, dirt, and other contaminants.

C. Reinstall wall plates and accessories removed prior to work of this section.

END OF SECTION

SECTION 09 90 00

PAINTING AND COATING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes surface preparation and field application of paints, stains, varnishes, and other coatings.
   1. Surface preparation and painting of exposed steel trusses.

B. Related Sections:
   1. Section 01 30 00 - Administrative Requirements.
   2. Section 01 33 00 - Submittal Procedures.
   3. Section 01 40 00 - Quality Requirements.
   4. Section 05 50 00 - Metal Fabrications: Shop primed items.
   5. Section 05 52 00 - Metal Railings.
   6. Section 06 20 00 - Finish Carpentry.
   7. Section 07 90 00 - Joint Sealers
   8. Section 08 12 14 - Standard Steel Frames.
   9. Section 08 13 14 - Standard Steel Doors.
   10. Section 08 14 16 - Flush Wood Doors.
   11. Section 08 31 13 - Access Doors and Panels.
   12. Section 09 21 16 - Gypsum Board Assemblies.
   13. Section 22 05 53 - Identification for Plumbing Piping and Equipment.
   14. Section 23 05 53 - Identification for HVAC Piping and Equipment.
   15. Section 26 05 53 - Identification for Electrical Systems.
   16. Section 27 05 53 - Identification for Communications Systems.

1.2 REFERENCES

A. ASTM International:
   1. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.
   2. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
   3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. Painting and Decorating Contractors of America:
   1. PDCA - Architectural Painting Specification Manual.

C. SSPC: The Society for Protective Coatings:
   1. SSPC - Steel Structures Painting Manual.

1.3 DEFINITIONS

A. Conform to ASTM D16 for interpretation of terms used in this section.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit data on finishing products.

C. Samples:
1. Submit two paper chip samples, illustrating range of colors and textures available for each surface finishing product scheduled.

D. Manufacturer's Installation Instructions: Submit special surface preparation procedures, substrate conditions requiring special attention

1.5 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

1.6 QUALITY ASSURANCE

A. Surface Burning Characteristics:
1. Fire Retardant Finishes: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

1.7 QUALITY ASSURANCE

A. Surface Burning Characteristics:
1. Fire Retardant Finishes: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

1.8 QUALIFICATIONS

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

B. Applicator: Company specializing in performing work of this section with minimum 3 years experience.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

C. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

D. Paint Materials: Store at minimum ambient temperature of 45 degrees F and maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.10 ENVIRONMENTAL REQUIREMENTS

A. Section 01 60 00 - Product Requirements.

B. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.

C. Do not apply exterior coatings during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

E. Minimum Application Temperature for Varnish Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.

F. Provide lighting level of 80 ft candle measured mid-height at substrate surface.

1.11 SEQUENCING

A. Section 01 10 00 - Summary: Work sequence.

B. Sequence application to the following:
1. Do not apply finish coats until paintable sealant is applied.
2. Back prime wood trim before installation of trim.

1.12 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.

B. Supply 1 gallon of each type; store where directed.

C. Label each container with color, type, texture, room locations, in addition to manufacturer's label.

PART 2 PRODUCTS

2.1 PAINTS AND COATINGS

A. Manufacturers:
1. Sherwin Williams
2. Duron Inc.
3. MAB Paints
4. PPG Architectural Finishes.
5. Benjamin Moore
6. ICI Paints
7. STO
8. Substitutions: Section 01 60 00 - Product Requirements: Permitted.

2.2 COMPONENTS

A. Coatings: Ready mixed, except field catalyzed coatings. Prepare coatings:
1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
2. For good flow and brushing properties.
3. Capable of drying or curing free of streaks or sags.
4. Interior Flat and Non-Flat Paints: Maximum volatile organic compound content in accordance with GS-11.

B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve finishes specified; commercial quality.

C. Patching Materials: Latex filler.

D. Fastener Head Cover Materials: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify surfaces are ready to receive Work as instructed by product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report conditions capable of affecting proper application.

D. Test shop applied primer for compatibility with subsequent cover materials.

E. Measure moisture content of surfaces using electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Gypsum Wallboard: 12 percent.

2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
4. Concrete Floors: 8 percent.

3.2 PREPARATION

A. Surface Appurtenances: Remove [or mask] electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

B. Surfaces: Correct defects and clean surfaces capable of affecting work of this section.

C. Marks: Seal with shellac those which may bleed through surface finishes.

D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

E. Asphalt, Creosote, or Bituminous Surfaces Scheduled for Paint Finish: Remove foreign particles to permit adhesion of finishing materials. Apply compatible sealer or primer.

F. Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.

G. Gypsum Board Surfaces: Fill minor defects with filler compound. Spot prime defects after repair.

H. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

I. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

J. Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by power tool wire brushing or sandblasting; clean by washing with solvent. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

K. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Prime metal items including shop primed items.

L. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.

M. Interior Wood Items Scheduled to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats.

N. Metal Doors Scheduled for Painting: Prime metal door top and bottom edge surfaces.

3.3 PREPARATION OF EXISTING STEEL TRUSSES (EXPOSED ONLY)

A. Where heavy coatings of scale are evident, remove by power tool wire brushing or sandblasting; Sand any rough areas to smooth condition. Clean by washing with solvent. Prime and paint entire trusses after repairs.

3.4 APPLICATION

A. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

B. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.

C. Sand wood and metal surfaces lightly between coats to achieve required finish.

D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

E. Where clear finishes are required, tint fillers to match wood. Work fillers into grain before set. Wipe excess from surface.

F. Prime concealed surfaces of interior woodwork with primer paint.

G. Prime concealed surfaces of interior wood surfaces scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with thinner.

H. Finishing Mechanical And Electrical Equipment:
1. Refer to Section 22 05 53, Section 23 05 53 Section 26 05 53 , and Section 27 05 53 for schedule of color coding and identification banding of equipment, duct work, piping, and conduit.
2. Paint shop primed equipment. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
3. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are shop finished.
4. Paint interior surfaces of air ducts and convector and baseboard heating cabinets visible through grilles and louvers with one coat of flat black paint to visible surfaces. Paint dampers exposed behind louvers, grilles and convector and baseboard cabinets to match face panels.
5. Paint exposed conduit and electrical equipment occurring in finished areas.

6. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.
7. Color code equipment, piping, conduit, and exposed duct work in accordance with requirements indicated.
8. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.5 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Final cleaning.

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

3.6 SCHEDULE - EXTERIOR SURFACES (Sherwin Williams Brand)

A. Wood - Painted (Opaque):
1. First Coat: Exterior oil based wood primer.
2. Second coat: Exterior Alkyd gloss enamel.
3. Third Coat: Exterior Alkyd gloss enamel.

B. Steel - Unprimed:
1. First Coat: Procryl Primer
2. Second Coat: Pro Industrial High Performance Acrylic Semi Gloss
3. Third Coat: Pro Industrial High Performance Acrylic Semi Gloss

C. Steel - Shop Primed:
1. Touch-up with compatible primer.
2. Two Coats: Pro Industrial High Performance Acrylic Semi Gloss

D. Steel - Galvanized:
1. First Coat: Procryl Primer
2. Two Coats: Pro Industrial High Performance Acrylic Semi Gloss

3.7 SCHEDULE - INTERIOR SURFACES (Sherwin Williams brand or as noted)

A. Wood - Painted:
1. First Coat: Prep Rite Primer.
2. Second Coat: Proclassic Acrylic semi gloss.
3. Third Coat: ProClassic Acrylic semi gloss.

B. Wood - Transparent (Open Grain):
1. First Coat: Filler coat.
2. Second Coat: Minwax 250 VOC stain
3. Third Coat: Minwax 250 VOC stain.
4. Fourth Coat: Sealer.
5. Fifth Coat: Woodclassic Water base polyurethane, satin.

C. Steel - Unprimed:
1. First Coat: Pro Cryl primer.
2. Second Coat:. Pro Industrial High Performance Acrylic Semi gloss
3. Third Coat: Pro Industrial High Performance Acrylic Semi gloss

D Steel - Primed:
3. Touch-up with compatible primer.
4. Second Coat: Pro Industrial High Performance Acrylic Semi gloss
5. Third Coat: Pro Industrial High Performance Acrylic Semi gloss

F. Gypsum Board:
1. First Coat: Promar 200 zero VOC Latex Primer.
2. Second Coat: Promar 200 zero VOC Latex eg-shell.
3. Third Coat: Promar 200 zero VOC Latex eg-shell.

K. Concrete Block:
1. First Coat: Loxon Concrete and Masonry Primer
2. Two Coats: Pro Industrial High Performance Acrylic Semi gloss

END OF SECTION

SECTION 10 28 00

TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Toilet accessories.
   2. Grab bars.
   3. Attachment hardware.

B. Related Sections:
   1. Section 01 30 00 - Administrative Requirements.
   2. Section 01 33 00 - Submittal Procedures.
   3. Section 01 40 00 - Quality Requirements.
   4. Section 06 10 53 – Miscellaneous Rough Carpentry.

1.2 REFERENCES

A. ASTM International:
   1. ASTM A666 - Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Bar.

B. American National Standards Institute.
   1. ANSI A117.1 - Safety Standards for the Handicapped.

C. American Disabilities Act:
   1. Vol 58, No 144 Accessibility Guidelines for Building and Facilities.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on accessories describing size, finish, details of function, attachment methods.

1.4 REGULATORY REQUIREMENTS

A. Conform to ANSI A117.1 code for access for the handicapped.

B. ADA Vol 58, No 144 Accessibility Guidelines for Building and Facilities.

1.5 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on product data instructed by the manufacturer.

PART 2 PRODUCTS

2.1 TOILET AND BATH ACCESSORIES

A. Manufacturers: See drawing Schedule

2.2 COMPONENTS

A. Stainless Steel Sheet: ASTM A666, Type 304.

B. Keys: Furnish two keys for each accessory to Owner.

C. Mirror Glass

D. Fasteners, Screws, and Bolts: Hot dip galvanized, tamper-proof.

E. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.3 FABRICATION

A. Weld and Grind joints of fabricated components, smooth.

B. Form exposed surfaces from single sheet of stock, free of joints. Form surfaces flat without distortion. Maintain surfaces without scratches and dents.

C. Shop assemble components and package complete with anchors and fittings.

D. Provide steel anchor plates, adapters, and anchor components for installation.

2.4 FACTORY FINISHING

A. Stainless Steel: No. 4 satin brushed finish, unless otherwise noted.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify exact location of accessories for installation.

C. Verify that site conditions are ready to receive work and field measurements are as indicated on shop drawings,

3.2 PREPARATION

A. Deliver inserts and rough-in frames to site for timely installation.

B. Provide templates and rough-in measurements as required.

3.3 INSTALLATION

A. Install plumb and level, securely and rigidly anchored to substrate.

B. Install accessories in accordance with manufacturer's instructions and ANSI A117.

END OF SECTION

SECTION 10 53 00

OVERHEAD SUPPORTED CANOPIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Work in this section shall include design, fabrication, and installation of aluminum protective covers. All work shall be in accordance with the shop drawings and this specification section

B. Related Documents
1. Section 01 30 00 - Administrative Requirements.
2. Section 01 33 00 - Submittal Procedures.
3. Section 01 40 00 - Quality Requirements.

C. References
1. International Building Code 2006
2. ASCE 7-05, Minimum Design Loads for Buildings and Other Structures
3. Aluminum Design Manual 2005
4. Local governing codes and standards for site location

1.2 SUBMITTALS

A. Shop Drawings – Submit complete shop drawings including:
1. Overall canopy layout dimensions
2. Cut section details including elevation, wall attachment details, and connection details
3. Flashing details pertaining to aluminum canopy
4. Canopy anchorage details

B. Product Data – Submit manufacturer's product information, specifications, and installation instructions for the aluminum canopy.

C. Samples – Submit color selection samples of actual coated aluminum material or actual anodized aluminum material.

D. Certification – Provide letter of compliance certifying that the proposed canopy design and layout meets or exceeds all applicable loadings (ex: wind load, rain live load, dead load, snow load) for the job location (city & state) in accordance with IBC2006 and ASCE 7-05.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum five years experience in design, fabrication, and production of aluminum protective covers.

B. Components shall be assembled in shop to greatest extent possible to minimize field assembly.

C. Aluminum protective cover, including material and workmanship, shall be warranted from defects for a period of one year from date of completion of aluminum protective cover installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Mitchell Metals, LLC1761 McCoba Drive, Suite A Smyrna, GA 30080
1. Phone 770.431.7300 Fax 770.431.7305 www.mitchellmetals.net

B. Equivalent systems by other manufacturers will be approved for substitution

2.2 DESIGN AND ASSEMBLY

A. Canopy shall use perimeter extruded gutter and extruded decking running perpendicular to wall being attached to. Extruded Decking shall be a roll-locked design where the extruded cap and pan shall interlock to make a rigid structure. Crimped decking is not allowed. Roll formed decking shall be allowed upon approval by the architect.

B. Canopy gutter frame shall be welded into a single frame unless shipping does not allow. If shipping does not allow, canopy frame shall be riveted together at the corners and caulked inside to make a water-tight frame.

C. Canopy shall be secured to the wall using a 6”x6” extruded wall bracket. A 2”x2” square tube shall be used to connect the canopy frame to the extruded wall bracket. The 2”x2” square tube shall be secured to the canopy frame using an extruded saddle bracket.

D. Canopies shall drain from the decking to the perimeter gutter, and discharge from the bottom of the gutter out of a drain scupper. Downspouts can be used to drain the water from the overhead supported canopy to the ground upon the architect’s request.

E. Canopy shall be pitched toward the scupper/downspout to allow proper drainage out of the canopy frame.

2.3 MATERIALS

A. Support Rods
   1. Support rods shall be 2”x2” square tubing at 0.125” thick. B. Decking
      a. Decking shall be a rigid roll-locked design that is self flashing and utilizes interlocking sections.
      b. Extruded decking is to be of size indicated on architect’s drawings.
      c. Roll Formed is allowed upon the architect’s approval
      d. Where decking is run parallel to walkway, the ends of the pans shall be welded closed where decking does not terminate into a drain beam.
   2. Gutter
      a. Gutter shall be radius cornered aluminum extrusion of size indicated on architect’s drawings. Minimum gutter size shall be 4”x 6” at 0.093” thick.
   3. Flashing
      a. Flashing shall be made of aluminum sheet painted to match the color of the canopy. Minimum flashing thickness shall be 0.040” thick.

B. Fasteners
   1. All fasteners shall be stainless steel with neoprene washers and rivets are 3/16”aluminum

2.4 FINISHES

A. Factory applied two coat Kynar
   1. Comply with AAMA 2605
   2. Color is to be as selected by architect from manufacturer’s standard color chart.

PART 3 EXECUTION

3.1 ERECTION

A. Canopies are to be installed according to approved shop drawings and plans.

B. The entire structure shall be installed straight, true, and plumb according to standard construction procedures.

C. All fasteners penetrating the building’s face shall be caulked.

D. Any blocking necessary to install the overhead supported canopy shall be installed by the General Contractor according to the approved shop drawings prior to canopy installation.

E. Canopies shall be installed with positive and negative slope of 1/8” per foot to allow water drainage from top of canopy to draining scuppers/downspouts and eliminate ponding.

F. All joints, corners, and connections shall be tight and clean.

G. All exposed fasteners are to be painted to match the canopy color.

H. Decking is to be aligned and secured to aluminum frame structure.

3.2 CLEANING

A. All canopy surfaces exposed are to be cleaned after installation is complete.

B. Surplus materials and debris shall be removed from the jobsite after installation is complete.

3.3 PROTECTION

A. General Contractor shall ensure protection of installed aluminum canopies from other construction so that canopies are without damage at time of substantial completion of project.

END OF SECTION