

SECTION 00 01 01

PROJECT IDENTIFICATION PAGE

PROJECT MANUAL

PROJECT IDENTIFICATION

BIDDING REQUIREMENTS

CONDITIONS OF THE CONTRACT

GENERAL REQUIREMENTS

AND SPECIFICATIONS FOR:

**2010 DISTRICT-WIDE EXTERIOR DOOR REPLACEMENT
BID NO. 9672**

**1140 RANKIN
TROY, MICHIGAN 48083**

TROY SCHOOL DISTRICT
TROY, MICHIGAN 48083

Bid Time:	<u>3:00 p.m.</u>
Bid Date:	<u>May 10, 2010</u>
Bid Place:	<u>Troy School District Maintenance</u>
	<u>& Operations Building</u>
	<u>1140 Rankin</u>
	<u>Troy, Michigan 48083</u>

SECTION 00 01 03

TITLE PAGE

PROJECT TITLE AND LOCATION:

2010 DISTRICT-WIDE EXTERIOR
DOOR REPLACEMENT
BID NO. 9672
1140 RANKIN
TROY, MICHIGAN 48083

OWNER:

TROY SCHOOL DISTRICT

ARCHITECTS:

Wold Architects and Engineers
202 East Third Street, Suite 200
Royal Oak, Michigan 48067
Tel. (248) 284-0611

DATE:

April 26, 2010

SECTION 00 01 05

PROFESSIONAL CERTIFICATIONS

2010 DISTRICT-WIDE EXTERIOR DOOR REPLACEMENT

TROY SCHOOL DISTRICT

Wold Architects and Engineers

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly Licensed Architect under the laws of the State of Michigan.

	April 26, 2010	
Signature	Date	Registration

SECTION 00 01 10

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Division 10-49**Openings**

FRP Flush Doors

Aluminum Curtainwalls

Finish Hardware

Glazing

Louvers

Finishes

Painting

Not Used

ADVERTISEMENT TO BID

The **Troy School District** is seeking qualified bids for replacement of exterior doors at various schools within the District. Bid proposals will be received by Troy School District, 1140 Rankin, Troy, MI 48083 delivery or mail, to the attention of Frank Lams by 3:00 p.m. local time on Monday, May 10, 2010. Proposals must be sealed with Bidder's name on the outside of the envelope and designated as follows:

Sealed Proposal
Exterior Door Replacement
Bid # 9672
Contractor Name, Address, Phone Number

Proposals shall be based on the requirements set forth in this bid package specification. Any resultant contract shall be based on these specifications.

Bid Proposals will be publicly opened immediately following receipt of bids by the Troy School District and evaluated by Owner with awards subsequently made by Troy School District.

The Owner shall not open, consider or accept a Bid Proposal that is received after the date and time specified for bid submission in this Advertisement for Bids.

Bidding Documents will be available for examination and distribution on or after April 26, 2010. Examination may be made at the following locations:

- MHC/Repro Max, 36060 Industrial Road, Detroit, MI 48150
- Reed Construction Reports, www.reedep.com
- Construction Association of Michigan, 43636 Woodward Ave., Bloomfield, MI 48302
- www.troy.k12.mi.us/purchasing/items_out_for_bid.htm (left column)
- Wold Architects & Engineers, 202 East Third St., Suite 200, Royal Oak, MI 48067

Dunn Blue Reprographic 1009 West Maple Road, Clawson, MI 48017 (248) 288-5600, facsimile (248) 288-1198, will provide complete sets of the Bidding Documents to prospective bidders and subcontractors. The copies will be available by April 26, 2010. Both a deposit check in the amount of \$70 and a non-refundable check in the amount of \$30 made out to "Troy School District" for each set ordered are required. The following information must accompany the deposit: Company name, mailing address, street address, phone and facsimile numbers and type of bidder (i.e. General, Mechanical or Electrical Subcontractor to General, or other). A refund of \$70 will be sent to prime contractors who submit a bid to the Owner and subcontractors for each set (including addenda) returned to Dunn Blue Reprographic in good condition within ten (10) calendar days of the award date, subject to the conditions of AIA Document A701. Refunds will not be given if the plans are returned to the Architect's Office.

There will be a pre-bid meeting on Tuesday, May 4, 2010 at the Maintenance & Operations Office, 1140 Rankin, Troy MI, 48083 at 10:00 am. Attendance at this meeting is strongly encouraged.

Bid Proposals shall be on forms furnished by **Troy School District**. **Bidders will be required to submit with their Bid Proposals, a notarized Familial Relationship Disclosure Form**, which discloses any familial relationship that exists between the owner or any employee of the Bidder and any member of the School Board or the superintendent of the School District. Bid proposals that do not include this sworn and notarized disclosure statement will not be considered accepted. Bidders must also submit a Bid Security by a qualified surety authorized to do business in the State of Michigan where the Project is located and any other information required in the Instructions to Bidders. Bid Security shall be in an amount equal to five percent (5%) of the total bid. Bidders shall not withdraw Bid Proposals for a period of **sixty (60)** days after date for receipt of Bid Proposals.

The right to accept or reject any or all Bid Proposals, either in whole or in part, to waive any informalities or irregularities therein and to award the contract to other than the low bidder is reserved by Troy School District.

Accepted Bidders will be required, as a condition precedent to award of Contract, to furnish in the amount of 100% of the contract price, satisfactory Performance Bond and Payment Bond and Certificates of Insurance as required.

The successful bidder and its subordinate parties shall comply with the Prevailing Wage Requirements for all work as required by the State of Michigan Public Act 166 Dated 1965 As Amended.

End of Advertisement

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

The Instructions to Bidders, AIA Document A701, 1997 is attached hereto.

END OF SECTION 00 21 13



AIA® Document A701™ – 1997

Instructions to Bidders

for the following PROJECT:

(Name and location or address)

2010 District-Wide Exterior Door Replacement
Bid No. 9672

THE OWNER:

(Name, legal status and address)

Troy School District

1140 Rankin

Troy, Michigan 48083

THE ARCHITECT:

(Name, legal status and address)

Wold Architects and Engineers

202 East Third Street, Suite, 200

Royal Oak, Michigan 48067

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ADDITIONS AND DELETIONS:

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

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

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.

§ 3.3.5 Where the Contractor chooses to use an item approved by request but other than one shown on the details or specified, he shall be responsible for the coordination of any necessary changes in other work, and shall bear the cost of such change.

§ 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 in duplicate on the forms included with the Bidding Documents as produced by Wold Architects and Engineers, 202 East Third Street, Suite 200, Royal Oak, Michigan 48067.

§ 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.

§ 4.1.8 All Bids shall be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the Owner(s) or any employee of the bidder and any member of the Board of Education or the Superintendent of the School District. The Board of Education will not accept a bid that does not include a sworn and notarized familial relationship disclosure statement.

§ 4.2 BID SECURITY

§ 4.2.1 Each Bid will be considered unless it is accompanied by a Bid Bond payable without condition to the Owner in an amount equal to five percent (5%) of the total bid. The certified check or Bid Bond must accompany each bid is required as a guarantee that the bidder will enter into a contract with the Owner for the work described in the proposal and furnish a performance and payment bond and certificates of insurance as specified after notice by the Owner or Architect that contracts have been awarded to him and are ready for execution.

§ 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 the three (3) lowest 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. The Bid Security of other bidders will be returned by the Owner within a reasonable time after the opening of bids.

§ 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 for a period of thirty (30) days 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 Refer to Section 00 73 00 General Conditions of the Contract for Construction for Bond requirements.

(Paragraphs deleted)

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.

SECTION 00 41 13

BID FORM

BID PROPOSAL FOR: 2010 DISTRICT-WIDE EXTERIOR DOOR REPLACEMENT
BID NO. 9762
1140 RANKIN
TROY, MICHIGAN

BID TO: TROY SCHOOL DISTRICT
MAINTENANCE & OPERATIONS BUILDING
1140 RANKIN
TROY, MICHIGAN 48083

BID FROM: _____

We have examined the Contract Documents for the proposed 2010 District-Wide Exterior Door Replacement as prepared by Wold Architects and Engineers, Royal Oak, Michigan, and the conditions affecting the work.

In accordance therewith the undersigned proposes to furnish all labor and materials for Construction as set forth in the Contract Documents, including Addenda Nos. _____ issued thereto.

1. Accompanying this proposal is a Bid Security for all work, required to be furnished by Contract Documents, the same being subject to forfeiture in the event of default by the undersigned.
2. Accompanying this proposal is a Familial Affidavit of Bidder.
3. I agree to complete the Project, provided a contract is executed within 30 calendar days, by August 20, 2010.
4. I understand the Owner reserves the right to reject any or all bids, and it is agreed that this bid may not be withdrawn for a period of thirty (30) days from the opening thereof.

A. Base Bid "A" – Barnard Elementary (Drawing A1.1)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

B. Base Bid "B" – Bemis Elementary (Drawing A1.2)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

C. Base Bid "C" – Costello Elementary (Drawing A1.3)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

D. Base Bid "D" – Hamilton Elementary (Drawing A1.4)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

E. Base Bid "E" – Martel Elementary (Drawing A1.5)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

F. Base Bid "F" – Troy-Union Elementary (Drawing A1.6)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

G. Base Bid "G" – Wass Elementary (Drawing A1.7)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

H. Base Bid "H" – Wattles Elementary (Drawing A1.8)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

I. Base Bid "I" – Smith Middle School (Drawing A1.9)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

J. Base Bid "J" – Athens High School (Drawing A1.10 & A1.11)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

K. Base Bid "K" – Troy High School (Drawing A1.12)

1. The Bidder agrees to perform all work including General, Mechanical and Electrical Construction for the Base Bid Sum of:

_____ Dollars \$ _____

L. Total of all Base Bids (“A” (Drawing A1.1) thru “K” (Drawing A1.12))

1. It is the intent of the Troy School District to award the work at all sites to a single Contractor who agrees to perform all work including General, Mechanical and Electrical Construction for the Total Bid Sum of :

- a. Note: (total amount listed below must match the total sum of the amounts listed in Base Bid “A”(Drawing A1.1) thru Base Bid “K” (Drawing A1.12)).

_____ Dollars \$ _____

M. Unit Prices (CHANGE IN SCOPE OF WORK)

1. Unit Price #1: Provide a cost (labor and materials) to add or deduct one (1) Door (FRP Door and hardware). Door size to account for one (1) 3’-0” x 7’-0” Door.

Add/Deduct: _____ Dollars\$ _____ per opening.

2. Unit Price #2: Provide a cost (labor and materials) to add or deduct (1) opening (aluminum frame, FRP Door and hardware). Opening size to account for a 3’-4” x 8’-2” opening (3’0” – x 8’-0” Door).

Add/Deduct: _____ Dollars\$ _____ per opening.

3. Unit Price #3: Provide a cost (labor and materials) to add or deduct one (1) opening (aluminum frame, two (2) FRP Doors and hardware). Opening size to account for a 6’-4” x 8’x2” opening (two (2) 3’-0” x 8’-0” doors).

Add/Deduct: _____ Dollars\$ _____ per opening.

DATE _____

FIRM NAME _____

OFFICIAL ADDRESS _____

TELEPHONE NUMBER (____) _____

FAX NUMBER (____) _____

BY _____

TITLE _____

END OF SECTION 00 41 13

SECTION 00 41 15

FAMILIAL AFFIDAVIT OF BIDDER

The undersigned, the owner or authorized officer of _____ (the "Bidder"), pursuant to the familial disclosure requirement provided in the [School Dist Name] advertisement for construction bids, hereby represent and warrant, except as provided below, that no familial relationships exist between the owner(s) or any employee of _____ (the "Bidder") and any member of the Board of Education of the School District or the Superintendent of the School District.

List any Familial Relationships:

BIDDER:

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the _____ day of _____, 2009, by
_____.

_____, Notary Public
_____ County, Michigan

My Commission Expires: _____

Acting in the County of: _____

END OF SECTION 00 41 15

SECTION 00 72 00
GENERAL CONDITIONS

The "General Conditions of the Contract for Construction", AIA Document A201, Fifteenth Edition, 2007 is attached hereto.

END OF SECTION 00 72 00



AIA[®] Document A201[™] – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

2010 District-Wide Exterior Door Replacement
Bid No. 9672

THE OWNER:

(Name and address)

Troy School District
1140 Rankin
Troy, Michigan 48083

THE ARCHITECT:

(Name and address)

Wold Architects and Engineers (Michigan)
202 East 3rd Street, Suite 200
Royal Oak, Michigan 48067

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ADDITIONS AND DELETIONS:

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

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

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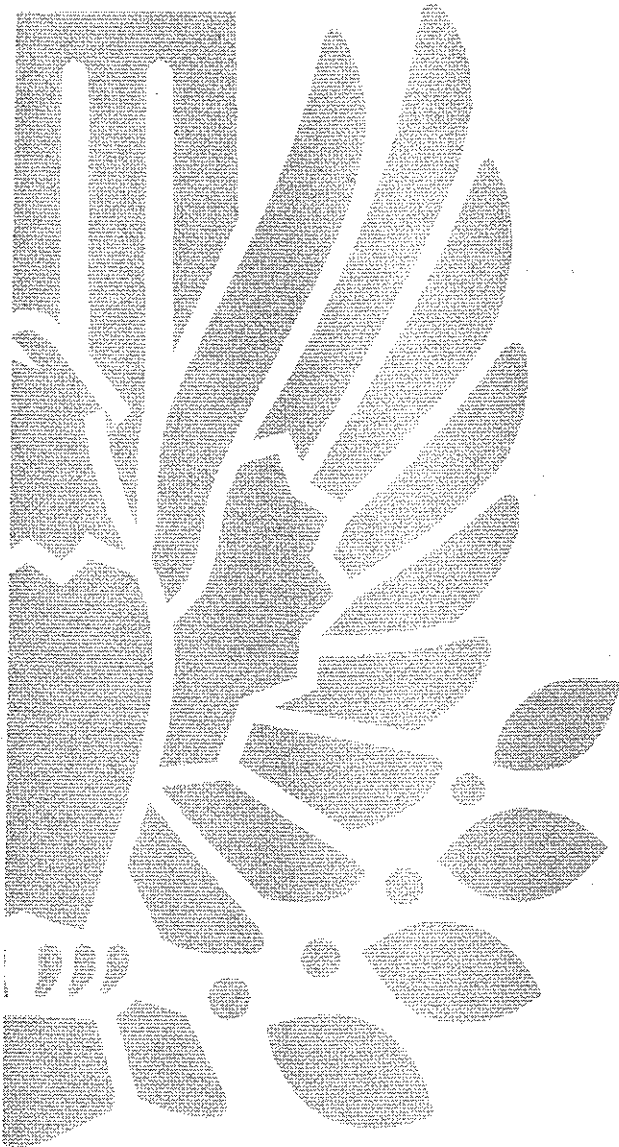
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ARTICLE 1 GENERAL PROVISIONS

§ 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 ARCHITECT/INITIAL DECISION MAKER

The Architect/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.

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§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

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

In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by addendum, the better quality or great quantity of Work shall be provided in accordance with the Architect's interpretations.

§ 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

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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 with the exception of utilities to be field verified by the Contractor. The Contractor shall be responsible to have public and private utilities located within the areas being disturbed to implement the work on site.

§ 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 Contractor will be furnished free of charge, such copies of the Contract Documents as are reasonably necessary for execution of the Work. Following the initial issue of Drawings and Project Manuals, additional copies requested by the Contractor will be furnished at the cost of reproduction, postage and handling.

§ 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

§ 2.4.1 Prior to substantial completion, 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.

§ 2.4.2 After substantial completion, if the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails to correct such deficiencies within 30 days of receipt of written notice from the Architect or Owner, 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

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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 unless the Contractor recognized such error, inconsistency, omission or difference and knowingly failed to report it to the Architect.

§ 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

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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. After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in Section 01 25 00 – Substitutions and Product Options.

§ 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.

The Owner will pay City Development Fees, Sewer Availability Charge (SAC), Water Availability Charge (WAC), and Electrical Connection Charges.

§ 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.

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§ 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. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

§ 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 as required by Section 01 32 00 Construction Scheduling. 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 as required by Section 01 32 00 Construction Scheduling, 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 Architect's 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 Architect reviewed 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. Shop drawings submitted prior to issuance of the building permit are at the Contractor's risk.

§ 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,

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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. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action.

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

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's review 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 review 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 review 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. The Contractor shall accept the site as it exists. The care, custody and control of the project site shall be vested in the Contractor, subject to the rights of the Owner.

§ 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.

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§ 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.

§ 3.19 PROJECT MANAGER

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

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

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

§ 3.19.3 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed project manager. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the

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proposed project manager or (2) that the Architect required additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

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

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. The term "Architect" means the Architect or the Architect's authorized representative.

§ 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 end of the warranty period which ends one year from 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.

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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 take one of the following actions Reviewed; Rejected; Review Comments; Revise and Resubmit upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, the Architect will determine review timelines. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, coordinating the work, 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 20 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 20 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.

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§ 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, 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, and overhead as provided in Section 7.5.
- .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, permit fees, and sales, use or similar taxes related to the Work; and

§ 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.

§ 7.5 CHANGES IN CONTRACT SUM

§ 7.5.1 For any adjustments to the Contract Sum based on other than the unit prices method, the Contractor agrees to charge and accept payment for his overhead, bond, insurance, office project management, estimating time, field supervision, as-built modification and profit at the following percentages of the cost attributable to the change in the Work:

1. Ten percent (10%) for Work (labor, labor insurance and materials by the Contractor not involving subcontractors;
2. Five percent (5%) for Work (labor, labor insurance and materials) by subcontractors;
3. When both additions and credits are involved in any one proposal request, the allowance for overhead, bond, insurance, office project management, estimating time, field supervision, as-built modification and profit shall be figured on the basis of the net increase, if any;
4. For additional Work ordered as described above which will be executed by Subcontractors of the Contractor, it is agreed Subcontractors will be permitted to charge ten percent (10%) for work not involving sub-subcontractors and five percent (5%) for Work by sub subcontractors. to the net subcontract amount the Contractor may add five percent (5%).

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§ 7.5.2 A breakdown of material and an hourly breakdown of labor must be submitted with each request for additional compensation.

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 arbitration or litigation as provided for herein; 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 four copies 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.

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

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

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Operations and maintenance manuals	.125% of contract value
As-built drawings	.0625% of contract value
Training	.125% of contract value
Attic stock materials	.0625% of contract value

§ 9.2.4 The schedule of values shall be broken down with separate line items for labor and materials corresponding to each specification section.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit four copies to the Architect an itemized Application for Payment (AIA Document G702 and G703) 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, 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.

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

§ 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

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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 ten 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. Per 471.425 Minnesota Statutes, the prime contractor must pay any subcontractor within ten days of the prime contractor's receipt of payment from the Public Body/Owner for undisputed services provided by the subcontractor. The prime contractor must pay the subcontractor interest of 1 ½ percent per month on any disputed amounts not paid on time. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, the prime contractor shall pay the actual penalty due to the subcontractor. A subcontractor who prevails in a civil action to collect interest penalties from a prime contractor must be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action. 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

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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. If the Work is to be followed by construction by the Owner or by the separate contractors, Substantial Completion shall be defined as the readiness of the Work for the commencement of such construction.

§ 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 which the Contractor shall complete all items on the list accompanying the Certificate to sixty (60) calendar days. The Contractor will submit a punchlist completion schedule within ten (10) days of receipt of Certificate of Substantial Completion. Any cost incurred by the Architect or Architect's consultants (after 60 calendar days of substantial completion) to close out the project will be deducted from the Contractor's contract by change order. 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. Warranties on punchlist items will commence on the date of final payment.

§ 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. The payment shall be sufficient to increase the total payments to one hundred percent (100%) of the Contract Sum, less such amounts as the Owner and Architect shall determine for incomplete work and unsettled claims. The Owner has no obligation to make incremental retainage reductions after the initial determination for the incomplete work and unsettled claims.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer 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

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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.

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§ 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; which are sustained (1) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor, or (2) by another person;
5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
6. Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
7. Claims for bodily injury or property damage arising out of completed operations; and
8. Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.
9. Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:
 - a. Premises Operations (including X, C, and U coverages as applicable).
 - b. Independent Contractors' Protective.
 - c. Products and Completed Operations.
 - d. Personal Injury Liability with Employment Exclusion deleted, or Employment Practices Liability.
 - e. Contractual – including specified provision for Contractor's obligations under Paragraph 3.18.
 - f. Owned, non-owned and hired motor vehicles.
 - g. Broad Form Property Damage including Completion Operations.
 - h. Umbrella Excess Liability.
10. A General Liability or Umbrella Liability Policy on a claims-made basis will not be accepted.

§ 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.

a. Workers' Compensation:

1) Michigan Statutory

2) Employer's Liability:

\$100,000 per accident

\$500,000 disease, policy limit

\$100,000 disease, each employee

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b. Comprehensive or Commercial General Liability (including Premises-Operations; Independent Contractor's Protective; Products and Completed Operations; Broad Form Property Damage):

- 1) Bodily Injury: \$500,000 each occurrence
\$1,000,000 aggregate
- 2) Property Damage: \$500,000 each occurrence
\$1,000,000 aggregate
- 3) Products and Completed Operations to be maintained for 2 years after final payment:
\$1,000,000 aggregate
- 4) Property Damage Liability Insurance shall provide X, C and U coverage.
- 5) Broad Form Property Damage Coverage shall include Completed Operations.

c. Contractual Liability

- 1) Bodily Injury \$500,000 each occurrence
\$1,000,000 aggregate
- 2) Property Damage: \$500,000 each occurrence
\$1,000,000 aggregate

d. Personal Injury, with Employment Exclusion deleted:

\$1,000,000 aggregate

Employment Practices Liability

\$1,000,000 aggregate

e. Business Auto Liability (including owned, non-owned and hired vehicles):

- 1) Bodily Injury: \$1,000,000 each person
\$1,000,000 each occurrence
- 2) Property Damage: \$1,000,000 each occurrence

f. If the General Liability coverages are provided by a Commercial Liability policy, the:

- 1) General Aggregate shall be not less than \$2,000,000 and it shall apply, in total, to this Project only.
- 2) Fire Damage Limit shall be not less than \$100,000 on any one fire.
- 3) Medical Expense Limit shall be not less than \$5,000 on any one person.

g. Umbrella Excess Liability:

\$3,000,000 over primary insurance.

\$10,000 retention for self-insured hazards, each occurrence.

§ 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. If this insurance is written on the Comprehensive General Liability policy form, the Certificates 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. In addition to the required certificates, copies of policy endorsements indicating the Owner as Additional Insured shall be provided to the Owner.

§ 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. The policy limits shall be not less than \$1,500,000.

§ 11.1.5 The insurance required by subparagraph 11.1.1 shall include an Indemnification clause as respect to General Liability and Worker's Compensation coverages.

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§ 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 The Contractor 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 (Special Form) in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire work at the site on a replacement cost basis. The Contractor shall be responsible for payment of all deductibles resulting from losses under the coverage provided herein. Such insurance will cover damage to work completed, materials installed and awaiting installation, and all materials in transit for the Project. 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 all phases are substantially complete or until no person or entity other than the Owner has an insurable interest in the property required by this Paragraph 11.4 to be covered, whichever is earlier. This insurance shall include interests of the Owner, Architects, Engineers, Architect's consultants, Contractor, Subcontractors and Sub-subcontractors in the Work. The form of policy for this coverage shall be completed Value. If the Owner is damaged by the failure of the Contractor to maintain such insurance, then the contractor shall bear all reasonable costs properly attributable thereto.

§ 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.

(Paragraphs deleted)

§ 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. The testing exclusion shall be removed from this policy.

§ 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.

(Paragraph deleted)

§ 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.

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§ 11.3.6 Before an exposure to loss may occur, the Contractor shall file with the Owner through the Architect, two certified copies of the policy or policies providing this Property Insurance Coverage, each containing those endorsements specifically related to the Project.

§ 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 Contractor 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 this property insurance shall be adjusted by the Contractor as fiduciary and made payable to the Contractor 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 Contractor as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Contractor's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Contractor shall deposit in a separate account proceeds so received, which the Contractor 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 Contractor 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 Contractor's exercise of this power; if such objection is made, arbitrators shall be chosen as provided in Paragraph 15.4. The Contractor as fiduciary shall in that case make settlement with insurers or, in accordance with the directions of the arbitrators.

§ 11.3.11 In the event of partial occupancy or use in accordance with Paragraph 9.9, the Contractor shall notify the insurance company and obtain a "Use and Occupancy Waiver" such that the policy will not be invalidated by occupancy.

§ 11.3.12 All insurance policies shall contain a provision stating that coverages afforded under any of the aforesaid insurance policies shall not be cancelled or materially changed without at least thirty (30) days prior written notice to the Owner. On all Certificate forms, the words "endeavor to" and the remaining words beginning with "but failure to" shall be stricken from the cancellation notice provision.

§ 11.3.13 All insurance policies shall be underwritten with responsible insurance carriers with Best's Rating of not less than A and X and otherwise satisfactory to the Owner and licensed to provide insurance in the state in which the project is located. Non-admitted carriers may be considered on an individual basis.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Contractor shall furnish bond or bonds as described below, covering the faithful performance of the Contract and the payments of all obligations arising thereunder. The Contract will not be signed until the Owner has received the proper bond specified under this Article, issued by a bonding company licensed to do business in the State where the construction will take place, and on the current list of Company's Holding Certificates of Authority as

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acceptable Sureties on Federal Bonds and as acceptable reinsuring companies as published in Circular 570 (Amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the authority to act.

§ 11.4.1.1 Furnish both AIA A312 Performance Bond and AIA A312 Payment Bond in the amount of 100% of the Contract Price.

§ 11.4.1.2 The Performance Bond and Payment Bond shall be submitted in the exact form specified in Section 11.4.1.1, above, and with the certificates specified in Section 11.4.1.3, below, and no other modifications or addendum whatsoever shall be allowed.

§ 11.4.1.3 Duly executed, notarized and updated Acknowledgements of both the Principal and Surety and the Surety's Power of Attorney must be attached to each of the two required bonds.

§ 11.4.1.4 Bond amounts shall not exceed the single bond limit for the Contractor's bonding company as set forth in the Federal Register current as of the bid date.

§ 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 or Architect to do so unless the Owner or Architect has previously given the Contractor a written acceptance of such condition. The Owner or Architect shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner or Architect fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner 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 shall commence at final payment.

§ 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.

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§ 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

Accrual dates for Statutes of Limitations are controlled by Michigan Law.

§ 13.8 EQUAL OPPORTUNITY

§ 13.8.1 The Contractor shall maintain policies of employment as follows:

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

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

§ 13.9 WAGE DETERMINATION

§ 13.3.1 This is a prevailing wage project. All dealers and installers or manufacturers shall pay at least the minimum prevailing wage as published by the State of Michigan and conform to the labor laws of the State of Michigan and all other laws, ordinances, and legal requirements affecting their work in Michigan.

§ 13.9.2 The Dealer shall pay, if applicable, no less than the prevailing rate of wages as established to all laborers, workers and mechanics in the performance of the Work under this Contract in accordance with the State of Michigan Public Act 166 dated 1965 and as amended. Section 00 73 43 Prevailing Wages contain the scale of prevailing wages to be paid shall be posted by the Dealer in a prominent and easily accessible place a site of work.

§ 13.9.3 Any increases in costs to the Dealer due to changes in the prevailing rate of wages or labor law during the term of any contract shall be at the expense of the Contractor and not all the expense of the Owner.

§ 13.9.4 Information pertaining to the prevailing wage rates, prevailing hours of labor and hourly basic rates may be obtained from the Michigan Department of Energy, Labor and Economic Growth.. Said wage rates must be posted in at least one conspicuous place for the employees working on the project..

§ 13.9.5 Any violations of the Prevailing Wage Law shall be reported to the Michigan Department of Energy, Labor and Economic Growth.

§ 13.10 FIREARMS PROHIBITED

Unless specifically required by the terms of this contract, no provider of services pursuant to this contract, including but not limited to employees, agents or subcontractors of the (Vendor or Contractor, depending upon which term is used) shall carry or possess a firearm on Owner's premises or while acting on behalf of Owner's pursuant to the terms of this agreement. Violation of this provision shall be considered a substantial breach of the Agreement; and, in addition to any other remedy available to the Owner's under law or equity. Violation of this provision is grounds for immediate suspension or termination of this contract.

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

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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 Architect/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 Architect/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.

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§ 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 Architect/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 Architect/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 Architect/Initial Decision Maker for initial decision. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to arbitration 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 Architect/Initial Decision Maker

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with no decision having been rendered. Unless the Architect/Initial Decision Maker and all affected parties agree, the Architect/Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Architect/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 Architect/Initial Decision Maker is unable to resolve the Claim if the Architect/Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Architect/Initial Decision Maker concludes that, in the Architect/Initial Decision Maker's sole discretion, it would be inappropriate for the Architect/Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Architect/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 Architect/Initial Decision Maker in rendering a decision. The Architect/Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Architect/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 Architect/Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Architect/Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Architect/Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Architect/Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Architect/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, 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 arbitration.

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

§ 15.2.6.1 When a written decision of the Architect/Initial Decision Maker states that (1) the decision is final but subject to arbitration, as provided for herein, and (2) a demand for arbitration of a Claim covered by such decision must be made within 30 days after the date on which the party making the demand receives the final written decision, then failure to demand arbitration within said 30 days' period shall result in the Architect's decision becoming final and binding upon the Owner and Contractor. If the Architect/Initial Decision Maker renders a decision after arbitration proceedings have been initiated, such decision may be entered as evidence, but shall not supersede arbitration proceedings unless the decision is acceptable to all parties concerned.

§ 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.

(Paragraphs deleted)

§ 15.4 ARBITRATION

NOTE: All references to "Arbitration" in Section 15.4 shall be considered permissive and not mandatory. The Owner shall, in its sole discretion, have the right and option to enforce any claim it may have against the Contractor, or against any of the Subcontractors, Sub-subcontractors, Suppliers or Vendors of Contractor, through litigation. The Owner shall, in its sole discretion, also have the right and option to refuse to arbitrate any claim brought against Owner by the Contractor, either on Contractor's own behalf, or on behalf of any of the Subcontractors, Sub-subcontractors, Suppliers or Vendors of Contractor, and demand that such claim be pursued through litigation. In the event the Owner exercises its right and option to refuse to arbitrate a claim brought against the Owner, written notice of such refusal

shall be given by Owner to the party making the claim and to any tribunal administering the claim at any time up to and including the date when Owner is required by any applicable statute, rule or order to respond to such claim.

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim shall be subject to arbitration unless the Owner decides to pursue the claim through litigation 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 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 Limitation on Consolidation or Joinder. No arbitration arising out of or relating to the Contract shall include, by consolidation or joinder or in any other manner, the Architect, the Architect's employees or consultants, except by written consent containing specific reference to the Agreement and signed by the Architect, Owner, Contractor and any other person or entity sought to be joined. No arbitration shall include, by consolidation or joinder or in any other manner, parties other than the Owner, Contractor, a separate contractor as described in Article 6 and other persons substantially involved in a common question of fact or law whose presence is required if complete relief is to be accorded in arbitration. No person or entity other than the Owner, Contractor or a separate contractor as described in Article 6 shall be included as an original third party or additional third party to an arbitration whose interest or responsibility is insubstantial. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a Claim not described therein or with a person or entity not named or described therein. 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.

(Paragraphs deleted)

SECTION 00 73 43

PREVAILING WAGES

Current Prevailing Wages information is available from the State of Michigan Department of Labor and Economic Growth Wage and Hour Division. (517) 322-1825.

END OF SECTION 00 73 43



JENNIFER M.
GRANHOLM
GOVERNOR

Michigan Department of Energy, Labor & Economic Growth

Wage & Hour Division

PO Box 30476

Lansing , MI 48909-7976

517.335.0400

www.michigan.gov/wagehour



STANLEY "SKIP" PRUSS
DIRECTOR

Informational Sheet: Prevailing Wages on State Projects General Information Regarding Fringe Benefits

Certain fringe benefits **may** be credited toward the payment of the Prevailing Wage Rate:

- If a fringe benefit is paid directly to a construction mechanic
- If a fringe benefit contribution or payment is made on behalf of a construction mechanic
- If a fringe benefit, which may be provided to a construction mechanic, is pursuant to a written contract or policy
- If a fringe benefit is paid into a fund, for a construction mechanic

When a fringe benefit is not paid by an hourly rate, the hourly credit will be calculated based on the annual value of the fringe benefit divided by 2080 hours per year (52 weeks @ 40 hours per week).

The following is an example of the types of fringe benefits allowed and how an hourly credit is calculated:

Vacation	40 hours X \$14.00 per hour = \$560/2080 =	\$.27
Dental insurance	\$31.07 monthly premium X 12 mos. = \$372.84 /2080 =	\$.18
Vision insurance	\$5.38 monthly premium X 12 mos. = \$64.56/2080 =	\$.03
Health insurance	\$230.00 monthly premium X 12 mos. = \$2,760.00/2080 =	\$1.33
Life insurance	\$27.04 monthly premium X 12 mos. = \$324.48/2080 =	\$.16
Tuition	\$500.00 annual cost/2080 =	\$.24
Bonus	4 quarterly bonus/year x \$250 = \$1000.00/2080 =	\$.48
401k Employer Contribution	\$2000.00 total annual contribution/2080 =	\$.96
Total Hourly Credit		\$3.65

Other examples of the types of fringe benefits allowed:

- Sick pay
- Holiday pay
- Accidental Death & Dismemberment insurance premiums

The following are examples of items that **will not** be credited toward the payment of the Prevailing Wage Rate

- Legally required payments, such as:
 - Unemployment Insurance payments
 - Workers' Compensation Insurance payments
 - FICA (Social Security contributions, Medicare contributions)
- Reimbursable expenses, such as:
 - Clothing allowance or reimbursement
 - Uniform allowance or reimbursement
 - Gas allowance or reimbursement
 - Travel time or payment
 - Meals or lodging allowance or reimbursement
 - Per diem allowance or payment
- Other payments to or on behalf of a construction mechanic that are not wages or fringe benefits, such as:
 - Industry advancement funds
 - Financial or material loans



STATE OF MICHIGAN

JENNIFER M. GRANHOLM
GOVERNOR

DEPARTMENT OF ENERGY, LABOR & ECONOMIC GROWTH
LANSING

STANLEY "SKIP" PRUSS
DIRECTOR

REQUIREMENTS OF THE PREVAILING WAGES ON STATE PROJECTS ACT, PUBLIC ACT 166 OF 1965

The Michigan Department of Labor & Economic Growth determines prevailing rates pursuant to the Prevailing Wages on State Projects Act, Public Act 166 of 1965, as amended. The purpose of establishing prevailing rates is to provide minimum rates of pay that must be paid to workers on construction projects for which the state or a school district is the contracting agent and which is financed or financially supported by the state. By law, prevailing rates are compiled from the rates contained in collectively bargained agreements which cover the locations of the state projects. The official prevailing rates provide an hourly rate which includes wage and fringe benefit totals for designated construction mechanic classifications. The overtime rates also include wage and fringe benefit totals. Please pay special attention to the overtime and premium pay requirements. Prevailing wage is satisfied when wages plus fringe benefits paid to a worker are equal to or greater than the required rate.

State of Michigan responsibilities under the law:

- The department establishes the prevailing rate for each classification of construction mechanic ***requested by a contracting agent*** prior to contracts being let out for bid on a state project.

Contracting agent responsibilities under the law:

- If a contract is not awarded or construction does not start within 90 days of the date of the issuance of rates, a re-determination of rates must be requested by the contracting agent.
- Rates for classifications needed but not provided on the Prevailing Rate Schedule, ***must*** be obtained ***prior*** to contracts being let out for bid on a state project.
- The contracting agent, by written notice to the contractor and the sureties of the contractor known to the contracting agent, may terminate the contractor's right to proceed with that part of the contract, for which less than the prevailing rates have been or will be paid, and may proceed to complete the contract by separate agreement with another contractor or otherwise, and the original contractor and his sureties shall be liable to the contracting agent for any excess costs occasioned thereby.

Contractor responsibilities under the law:

- Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing rates prescribed in a contract.
- Every contractor and subcontractor shall keep certified payrolls, as used in the industry, of each and every construction mechanic, and verification of such certified payroll in writing by either a representative or auditor/certified accountant at the end of such a

DELEG is an equal opportunity employer/program.

Auxiliary aids, services and other reasonable accommodations are available upon request to individuals with disabilities.

WAGE & HOUR DIVISION
P.O. BOX 30476 • LANSING, MICHIGAN 48909-7976
www.michigan.gov/wagehour • (517) 335-0400 • FAX (517) 335-0077

certified payroll. These records should include the occupation and indicate the hours worked on each project for each classification and the actual wages and benefits paid. This record shall be available for reasonable inspection by the contracting agent or the department.

- Each contractor or subcontractor is separately liable for the payment of the prevailing rate to its employees.
- The prime contractor is responsible for advising all subcontractors of the requirement to pay the prevailing rate prior to commencement of work.
- The prime contractor is secondarily liable for payment of prevailing rates that are not paid by a subcontractor.
- A construction mechanic shall only be paid the apprentice rate if registered with the United States Department of Labor, Bureau of Apprenticeship and Training and the rate is included in the contract.

Enforcement:

A person who has information of an alleged prevailing wage violation on a state project may file a complaint with the Wage & Hour Division. The department will investigate and attempt to resolve the complaint informally. During the course of an investigation, if the requested records and posting certification are not made available in compliance with Section 5 of Act 166, the investigation will be concluded and a referral to the Office of Attorney General for civil action will be made. The Office of Attorney General will pursue costs and fees associated with a lawsuit if filing is necessary to obtain records.

A violation of Act 166 may result in the contractor's name being added to the Prevailing Wage Act Violators List published on the division's website, updated monthly. This list includes the names and addresses of contractors and subcontractors the division has found in violation of Act 166 based on complaints from individuals and third parties. The Prevailing Wage Act Violators List is intended to inform contracting agents of contractors that have violated Act 166 for use in determining who should receive state-funded projects.

State of Michigan
Department of Energy, Labor and Economic Growth

Wage and Hour Division

7150 Harris Dr.

PO Box 30476

Lansing, MI 48909-7976

Telephone: 517-322-1825

Fax: 517-322-6352

www.michigan.gov/wagehour

Official Request #: 564

Requestor: TROY SCHOOL DISTRICT

Project Description: DOOR REPLACEMENT

Project Number: DISTRICT WIDE

Oakland County

Official 2010 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/12/2010

Contract must be awarded by: 7/11/2010

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<u>Classification</u>		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description					
=====						
Asbestos & Lead Abatement Laborer						
Asbestos & Lead Abatement Laborer	MLDC		\$35.55	\$47.67	\$59.78	H H H X X X D Y
4 ten hour days @ straight time allowed Monday-Saturday, must be consecutive calendar days		8/6/2009				
Asbestos & Lead Abatement, Hazardous Material Handler						
Asbestos and Lead Abatement, Hazardous Material Handler	AS207		\$35.55	\$48.15	\$60.75	H H H X X X D Y
		11/4/2009				
4 ten hour days @ straight time allowed Monday-						
Boilermaker						
Boilermaker	BO169		\$54.70	\$81.08	\$107.45	H H H H H H D Y
		8/14/2009				
Apprentice Rates:						
1st 6 months			\$40.31	\$59.49	\$78.67	
2nd 6 months			\$41.45	\$61.21	\$80.95	
3rd 6 months			\$42.57	\$62.88	\$83.19	
4th 6 months			\$43.69	\$64.57	\$85.43	
5th 6 months			\$44.81	\$66.24	\$87.67	
6th 6 months			\$49.53	\$73.40	\$97.26	
7th 6 months			\$49.32	\$73.01	\$96.69	
8th 6 months			\$51.58	\$76.40	\$101.21	
Bricklayer						
Bricklayer, stone mason, pointer, cleaner, caulker	BR1		\$50.18	\$75.27	\$100.36	H H D H D D D N
		12/4/2008				
Apprentice Rates:						
First 6 months			\$30.22	\$45.33	\$60.44	
2nd 6 months			\$32.07	\$48.10	\$64.14	
3rd 6 months			\$33.92	\$50.88	\$67.84	
4th 6 months			\$35.77	\$53.66	\$71.54	
5th 6 months			\$37.62	\$56.43	\$75.24	
6th 6 months			\$39.47	\$59.20	\$78.94	
7th 6 months			\$41.32	\$61.98	\$82.64	
8th 6 months			\$43.17	\$64.76	\$86.34	

Official Request 564

Requestor: TROY SCHOOL DISTRICT

Project Description: DOOR REPLACEMENT

Project Number: DISTRICT WIDE

County: Oakland

Official Rate Schedule

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Classification		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description					
=====						
Carpenter						
Carpet and Resilient Floor Layer, (does not include installation of prefabricated formica & parquet flooring which is to be paid carpenter rate)	CA1045	2/2/2009	\$43.24	\$61.36	\$79.47	H H H H D D D N
Apprentice Rates:						
1st 6 months			\$21.10	\$28.15	\$35.19	
2nd 6 months			\$25.12	\$34.17	\$43.23	
3rd 6 months			\$26.93	\$36.89	\$46.85	
4th 6 months			\$28.75	\$39.62	\$50.49	
5th 6 months			\$30.56	\$42.34	\$54.11	
6th 6 months			\$32.37	\$45.06	\$57.73	
7th 6 months			\$34.17	\$47.75	\$61.33	
8th 6 months			\$35.99	\$50.48	\$64.97	
Carpenter	CA687Z1	1/29/2009	\$48.05	\$68.47	\$88.89	H H D H D D D Y
Apprentice Rates:						
1st Year			\$29.68	\$40.91	\$52.15	
3rd 6 months			\$31.72	\$43.98	\$56.23	
4th 6 months			\$33.75	\$47.02	\$60.29	
5th 6 months			\$35.80	\$50.09	\$64.39	
6th 6 months			\$37.85	\$53.17	\$68.49	
7th 6 months			\$39.89	\$56.24	\$72.57	
8th 6 months			\$41.93	\$59.29	\$76.65	
Piledriver	CA687Z1P	1/29/2009	\$48.05	\$68.47	\$88.89	H H D H D D D Y
Apprentice Rates:						
1st 6 months			\$29.68	\$40.91	\$52.15	
2nd 6 months			\$33.75	\$47.02	\$60.29	
3rd 6 months			\$37.85	\$53.17	\$68.49	
4th 6 months			\$41.93	\$59.29	\$76.65	
<u>Subdivision of county</u>						
Cement Mason						
Cement Mason	br1cm	12/30/2009	\$45.50	\$64.36	\$83.22	H H D H H H D N
Apprentice Rates:						
1st 6 months			\$26.41	\$35.85	\$45.29	
2nd 6 months			\$28.28	\$38.66	\$49.03	
3rd 6 months			\$32.06	\$44.33	\$56.59	
4th 6 months			\$35.82	\$49.97	\$64.11	
5th 6 months			\$37.71	\$52.80	\$67.89	
6th 6 months			\$41.48	\$58.46	\$75.43	

Official Request 564
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<u>Classification</u>		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision						
Name	Description											
Cement Mason	CE514	9/25/2009	\$44.36	\$62.68	\$80.99	H	H	D	H	H	H	D N
Apprentice Rates:												
	1st 6 months		\$24.89	\$34.06	\$43.22							
	2nd 6 months		\$26.71	\$36.79	\$46.86							
	3rd 6 months		\$30.38	\$42.30	\$54.20							
	4th 6 months		\$34.03	\$47.77	\$61.50							
	5th 6 months		\$35.87	\$50.53	\$65.18							
	6th 6 months		\$39.53	\$56.02	\$72.50							
Drywall												
Drywall Taper	PT-22-D	10/15/2009	\$41.70	\$54.58	\$67.45	H	H	D	H	D	D	D N
Apprentice Rates:												
	First 3 months		\$28.83	\$35.27	\$41.71							
	Second 3 months		\$31.40	\$39.13	\$46.85							
	Second 6 months		\$33.97	\$42.98	\$51.99							
	Third 6 months		\$36.55	\$46.85	\$57.15							
	4th 6 months		\$37.84	\$48.79	\$59.73							
Electrician												
Road Way Electrical Work	EC-17	11/19/2007	\$45.37	\$65.63	\$85.90	H	H	H	H	H	H	D Y
Double time due after 16 hours on any calendar day and all hours Sunday.												
Apprentice Rates:												
	1st 6 months		\$29.17	\$41.34	\$53.50							
	2nd 6 months		\$31.19	\$44.36	\$57.54							
	3rd 6 months		\$33.21	\$47.40	\$61.58							
	4th 6 months		\$35.23	\$50.43	\$65.62							
	5th 6 months		\$37.25	\$53.46	\$69.66							
	6th 6 months		\$41.32	\$59.57	\$77.80							
<u>Subdivision of county</u>	Holly not included											
Inside Wireman	EC-58-IW	1/7/2008	\$53.62	\$71.49	\$89.36	H	H	H	H	H	H	D N
Apprentice Rates:												
	0-1000 hours		\$32.18	\$39.33	\$46.48							
	1000-2000 hours		\$33.97	\$42.02	\$50.06							
	2000-3500 hours		\$35.75	\$44.68	\$53.62							
	3500-5000 hours		\$37.54	\$47.38	\$57.20							
	5000-6500 hours		\$41.12	\$52.74	\$64.36							
	6500-8000 hours		\$44.68	\$58.08	\$71.48							

Official Request 564
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Project Description: DOOR REPLACEMENT

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County: Oakland

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<u>Classification</u>		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description					
Sound and Communication Installer/Technician	EC-58-SC	1/7/2008	\$32.54	\$44.20	\$55.86	H H H H H H D N
Apprentice Rates:						
	Period 1		\$20.88	\$26.71	\$32.54	
	Period 2		\$22.04	\$28.46	\$34.86	
	Period 3		\$23.21	\$30.21	\$37.20	
	Period 4		\$24.38	\$31.96	\$39.54	
	Period 5		\$25.55	\$33.72	\$41.88	
	Period 6		\$26.71	\$35.46	\$44.20	
Lineman/Technician outside utility and commercial power and high voltage pipe type cable work and electrical underground.	EC-876	11/18/2009	\$47.05	\$68.11	\$89.17	H H H H H H D Y
Four 10s allowed Monday-Thursday with Friday makeup or Tuesday-Friday with Monday makeup.						
Apprentice Rates:						
	1st period		\$30.20	\$42.69	\$55.26	
	2nd period		\$32.32	\$46.02	\$59.70	
	3rd period		\$34.42	\$49.16	\$63.90	
	4th period		\$36.53	\$52.33	\$68.12	
	5th period		\$38.63	\$55.47	\$72.32	
	6th period		\$40.74	\$58.64	\$76.54	
	7th period		\$42.84	\$61.79	\$80.74	
<u>Subdivision of county</u>	Holly Township only					
Elevator Constructor						
Elevator Constructor	EL 36	8/7/2007	\$56.46		\$94.99	D D D D D D D Y
Elevator Constructor						
Apprentice Rates:						
	1st Year Apprentice		\$37.74		\$58.93	
	2nd Year Apprentice		\$41.90		\$66.94	
	3rd Year Apprentice		\$43.98		\$70.95	
	4th Year Apprentice		\$48.14		\$78.96	

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Classification						
Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision

Glazier

Glazier	GL-357		\$45.20	\$59.80		H H H H H H H Y
If a four 10 hour day workweek is scheduled, four 10s must be consecutive, M-F.		6/10/2009				

Apprentice Rates:

1st 6 months	\$31.29	\$38.59
2nd 6 months	\$32.82	\$40.85
3rd 6 months	\$35.89	\$45.38
4th 6 months	\$37.42	\$47.64
5th 6 months	\$38.96	\$49.91
6th 6 months	\$40.49	\$52.17
7th 6 months	\$42.02	\$54.43
8th 6 months	\$45.09	\$58.96

Heat and Frost Insulator

Spray Insulation	AS25S		\$20.14	\$29.14		H H H H H H H N
		3/5/2007				

Heat and Frost Insulator and Asbestos Worker

Heat and Frost Insulators and Asbestos Workers	AS25		\$53.15	\$68.54	\$83.92	H H H H H H H D Y
Four 10s must be worked for a minimum of 2 weeks consecutively, Monday thru Thursday. All hours worked in excess of 10 will be paid at double time. All hours worked on the fifth day, Monday thru Friday will paid at time and one-half.		8/14/2009				

Apprentice Rates:

1st Year	\$39.30	\$47.76	\$56.22
2nd Year	\$42.38	\$52.38	\$62.38
3rd Year	\$43.92	\$54.69	\$65.46
4th Year	\$47.00	\$59.31	\$71.62

Ironworker

Fence, Sound Barrier & Guardrail erection/installation and Exterior Signage work	IR-25-F1		\$30.80	\$42.63	\$54.45	X X H X X X D D Y
Four ten hour work days may be worked during Monday-Saturday.		8/13/2009				

Apprentice Rates:

60% Level	\$21.10	\$28.19	\$35.29
65% Level	\$22.31	\$30.00	\$37.68
70% Level	\$23.53	\$31.81	\$40.09
75% Level	\$24.74	\$33.61	\$42.48
80% Level	\$25.95	\$35.41	\$44.87

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Classification			Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description						
Siding, Glazing, Curtain Wall	IR-25-GZ2		8/14/2009	\$41.86	\$52.62	\$63.37	H H H H H D D Y
4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time.							
Apprentice Rates:							
Level 1				\$25.93	\$32.38	\$38.84	
Level 2				\$27.99	\$34.98	\$41.97	
Level 3				\$30.06	\$37.59	\$45.12	
Level 4				\$32.13	\$40.20	\$48.26	
Level 5				\$34.19	\$42.80	\$51.40	
Level 6				\$36.26	\$45.40	\$54.54	
Pre-engineered Metal Work	IR-25-PE-Z1-Z2		5/8/2008	\$41.69	\$52.37	\$63.04	X X H X X X D Y
Apprentice Rates:							
1st level				\$23.47	\$28.51	\$33.55	
2nd level				\$25.12	\$30.85	\$36.58	
3rd level				\$26.78	\$33.19	\$39.61	
4th level				\$28.44	\$35.55	\$42.66	
5th level				\$30.10	\$37.90	\$45.70	
6th level				\$31.36	\$39.65	\$47.93	
Reinforced Iron Work	IR-25-RF		8/14/2009	\$51.36	\$73.35	\$95.34	H H D H D D D N
Apprentice Rates:							
Level 1				\$31.67	\$43.52	\$55.36	
Level 2				\$34.21	\$47.33	\$60.44	
Level 3				\$36.74	\$51.12	\$65.50	
Level 4				\$39.28	\$54.93	\$70.58	
Level 5				\$41.81	\$58.73	\$75.64	
Level 6				\$44.35	\$62.54	\$80.72	
Rigging Work	IR-25-RIG		8/14/2009	\$56.98	\$85.28	\$113.58	H H H H H H D N
Apprentice Rates:							
Level 1 & 2				\$32.28	\$48.17	\$64.05	
Level 3				\$35.11	\$52.41	\$69.71	
Level 4				\$37.93	\$56.64	\$75.35	
Level 5				\$40.76	\$60.89	\$81.01	
Level 6				\$43.59	\$65.13	\$86.67	

Official Request 564
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Classification		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description					
Decking	IR-25-SD	8/14/2009	\$48.94	\$73.16	\$97.37	H H H H H D D Y
4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time.						
Structural, ornamental, conveyor, welder and pre-cast	IR-25-STR	8/14/2009	\$57.11	\$85.41	\$113.71	H H H H H D D Y
4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time.						
Apprentice Rates:						
Levels 1 & 2			\$32.28	\$48.17	\$64.05	
Level 3			\$35.11	\$52.41	\$69.71	
Level 4			\$37.93	\$56.64	\$75.35	
Level 5			\$40.76	\$60.89	\$81.01	
Level 6			\$43.58	\$65.12	\$86.65	
Level 7			\$46.41	\$69.37	\$92.31	
Level 8			\$49.24	\$73.60	\$97.97	
Industrial Door erection & construction	IR-25-STR-D	3/28/2008	\$35.72	\$47.34	\$58.96	H H D H H H D D Y
Laborer						
Construction Laborer, Mason Tender, Carpenter Tender, Drywall Handler, Concrete Laborer, Cement Finisher tender, concrete chute and concrete Bucket Handler, Concrete Laborer, Demolition Laborer	L1076-A-A	11/9/2009	\$38.76	\$54.96	\$71.15	H H D H D D D D Y
Apprentice Rates:						
0-1,000 work hours			\$32.99	\$46.30	\$59.61	
1,001-2,000 work hours			\$34.14	\$48.02	\$61.91	
2,001-3,000 work hours			\$35.30	\$49.76	\$64.23	
3,001-4,000 work hours			\$37.61	\$53.23	\$68.85	
Signal man (on sewer & caisson work); air,electric or gasoline tool operator (including concrete vibrator operator,acetylene torch & air hammer operator); scaffold builder, caisson worker	L1076-A-B	7/10/2009	\$39.02	\$55.35	\$71.67	H H D H D D D D Y
Lansing Burner, Blaster & Powder Man	L1076-A-C	7/10/2009	\$39.51	\$56.08	\$72.65	H H D H D D D D Y
Furnance battery heater tender, burning bar & oxy-acetylene gun, expediter man, top man and/or bottom man (blast furnace work)	L1076-A-D	7/10/2009	\$39.26	\$55.71	\$72.15	H H D H D D D D Y

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Classification Name Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Cleaner/ sweeper laborer, furniture laborer	L1076-A-E				
	7/10/2009	\$33.31	\$46.78	\$60.25	H H D H D D D D Y
Demolition Laborer	L1076-D				
	7/10/2009	\$38.76	\$54.96	\$71.15	H H D H D D D D Y
Plasterer Tender, Plastering Machine Operator	LPT-1				
	8/6/2009	\$40.14	\$57.03	\$73.91	H H D H D D D D N
Apprentice Rates:					
0 - 1,000 hours		\$32.99	\$46.30	\$59.61	
1,001 - 2,000 hours		\$34.14	\$48.02	\$61.91	
2,001 - 3,000 hours		\$35.30	\$49.76	\$64.23	
3,001 - 4,000 hours		\$37.61	\$53.23	\$68.85	
Laborer - Hazardous					
Class A Laborer - performing work in conjunction with site preparation and other preliminary work prior to actual removal, handling, or containment of hazardous waste substances not requiring use of personal protective equipment required by state or federal regulations; or a laborer performing work in conjunction with the removal, handling, or containment of hazardous waste substances when used of personal protective equipment level "D" is required.	LHAZ-Z2-A				
	11/14/2008	\$38.76	\$54.89	\$71.01	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		\$32.88	\$46.07	\$59.25	
1,001-2,000 work hours		\$34.05	\$47.82	\$61.59	
2,001-3,000 work hours		\$35.23	\$49.60	\$63.95	
3,001-4,000 work hours		\$37.58	\$53.12	\$68.65	
Class B Laborer - performing work in conjunction with the removal, handling, or containment of hazardous waste substances when the use of personal protective equipment levels "A", "B" or "C" is required.	LHAZ-Z2-B				
	11/14/2008	\$39.76	\$56.39	\$73.01	H H H H H H H D Y
Apprentice Rates:					
0-1,000 work hours		\$33.62	\$47.18	\$60.73	
1,001-2,000 work hours		\$34.85	\$49.02	\$63.19	
2,001-3,000 work hours		\$36.08	\$50.87	\$65.65	
3,001-4,000 work hours		\$38.53	\$54.54	\$70.55	

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Classification		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description					
Laborer Underground - Tunnel, Shaft & Caisson						
Class I - Tunnel, shaft and caisson laborer, dump man, shanty man, hog house tender, testing man (on gas), and watchman.	LAUCT-Z1-1	9/10/2009	\$34.54	\$45.23	\$55.91	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$29.72	\$38.00	\$46.27	
1,001-2,000 work hours			\$30.69	\$39.45	\$48.21	
2,001-3,000 work hours			\$31.65	\$40.89	\$50.13	
3,001-4,000 work hours			\$33.58	\$43.78	\$53.99	
Class II - Manhole, headwall, catch basin builder, bricklayer tender, mortar man, material mixer, fence erector, and guard rail builder.	LAUCT-Z1-2	9/10/2009	\$34.65	\$45.39	\$56.13	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$29.81	\$38.13	\$46.45	
1,001-2,000 work hours			\$30.77	\$39.57	\$48.37	
2,001-3,000 work hours			\$31.74	\$41.02	\$50.31	
3,001-4,000 work hours			\$33.68	\$43.94	\$54.19	
Class III - Air tool operator (jack hammer man, bush hammer man and grinding man), first bottom man, second bottom man, cage tender, car pusher, carrier man, concrete man, concrete form man, concrete repair man, cement invert laborer, cement finisher, concrete shoveler, conveyor man, floor man, gasoline and electric tool operator, gunnite man, grout operator, welder, heading dinky man, inside lock tender, pea gravel operator, pump man, outside lock tender, scaffold man, top signal man, switch man, track man, tugger man, utility man, vibrator man, winch operator, pipe jacking man, wagon drill and air track operator and concrete saw operator (under 40	LAUCT-Z1-3	9/10/2009	\$34.71	\$45.48	\$56.25	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$29.85	\$38.19	\$46.53	
1,001-2,000 work hours			\$30.82	\$39.64	\$48.47	
2,001-3,000 work hours			\$31.79	\$41.10	\$50.41	
3,001-4,000 work hours			\$33.74	\$44.02	\$54.31	
Class IV - Tunnel, shaft and caisson mucker, bracer man, liner plate man, long haul dinky driver and well point	LAUCT-Z1-4	9/10/2009	\$34.89	\$45.75	\$56.61	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$29.99	\$38.40	\$46.81	
1,001-2,000 work hours			\$30.97	\$39.87	\$48.77	
2,001-3,000 work hours			\$31.95	\$41.34	\$50.73	
3,001-4,000 work hours			\$33.91	\$44.28	\$54.65	

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Classification		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description					
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Class V - Tunnel, shaft and caisson miner, drill runner, keyboard operator, power knife operator, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars)	LAUCT-Z1-5	9/10/2009	\$35.14	\$46.13	\$57.11	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$30.17	\$38.67	\$47.17	
1,001-2,000 work hours			\$31.17	\$40.17	\$49.17	
2,001-3,000 work hours			\$32.16	\$41.66	\$51.15	
3,001-4,000 work hours			\$34.15	\$44.64	\$55.13	
Class VI - Dynamite man and powder man.	LAUCT-Z1-6	9/10/2009	\$35.47	\$46.62	\$57.77	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$30.42	\$39.04	\$47.67	
1,001-2,000 work hours			\$31.43	\$40.56	\$49.69	
2,001-3,000 work hours			\$32.44	\$42.08	\$51.71	
3,001-4,000 work hours			\$34.46	\$45.10	\$55.75	
Class VII - Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes and flagstones.	LAUCT-Z1-7	9/10/2009	\$28.75	\$36.54	\$44.33	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$25.38	\$31.48	\$37.59	
1,001-2,000 work hours			\$26.05	\$32.49	\$38.93	
2,001-3,000 work hours			\$26.73	\$33.51	\$40.29	
3,001-4,000 work hours			\$28.08	\$35.54	\$42.99	
Landscape Laborer						
Landscape Specialist includes air, gas, and diesel equipment operator, lawn sprinkler installer on landscaping work where seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintenance of landscape projects occurs.	LLAN-Z1-A	7/9/2009	\$25.38	\$35.06	\$44.74	X X H X X X H D Y
Sundays paid at time & one half. Holidays paid at double						
All work pertaining to landscaping where seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintaining of landscape projects occurs which may include small power tool operator, lawn sprinkler installer helper, material mover, & truck driver.	LLAN-Z1-B	7/9/2009	\$21.16	\$28.73	\$36.30	X X H X X X H D Y
Sundays paid at time & one half. Holidays paid at double time.						

Official Request 564
 Requestor: TROY SCHOOL DISTRICT
 Project Description: DOOR REPLACEMENT
 Project Number: DISTRICT WIDE
 County: Oakland

Official Rate Schedule
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Classification			Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description						

Marble Finisher

Marble Finisher BR1-MF \$41.37 \$51.86 \$62.34 H H D H D D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday. 8/11/2009

Apprentice Rates:

Level 1	\$18.11	\$24.00	\$29.89
Level 2	\$19.25	\$25.71	\$32.17
Level 3	\$25.69	\$32.40	\$39.12
Level 4	\$27.09	\$34.50	\$41.92
Level 5	\$28.53	\$36.15	\$43.77
Level 6	\$30.07	\$38.06	\$46.06
Level 7	\$31.68	\$39.73	\$47.79
Level 8	\$33.10	\$41.42	\$49.74

Marble Mason

Marble Mason BR1-MM \$47.85 \$61.58 \$75.30 H H D H D D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday. 8/11/2009

Apprentice Rates:

Level 1	\$23.92	\$31.19	\$38.47
Level 2	\$26.83	\$34.85	\$42.87
Level 3	\$31.79	\$40.02	\$48.26
Level 4	\$34.40	\$43.55	\$52.69
Level 5	\$36.55	\$45.94	\$55.33
Level 6	\$40.04	\$51.10	\$62.16
Level 7	\$40.67	\$51.90	\$63.14
Level 8	\$41.56	\$53.24	\$64.92

Operating Engineer

Crane with boom & jib or leads 120' or longer EN-324-A120 \$51.81 \$68.75 \$85.68 H H D H D D D D Y
1/22/2010

Four ten hour days may be scheduled Monday-Thursday.
Work in excess of 10 hours but less than 12 per day shall be paid at time and one-half. Work in excess of 12 per day shall be paid at double time. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours.

Crane with boom & jib or leads 140' or longer EN-324-A140 \$52.63 \$69.98 \$87.32 H H D H D D D D Y
1/22/2010

Four ten hour days may be scheduled Monday-Thursday.
Work in excess of 10 hours but less than 12 per day shall be paid at time and one-half. Work in excess of 12 per day shall be paid at double time. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours.

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Classification										
Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision				
Crane with boom & jib or leads 220' or longer	EN-324-A220	1/22/2010	\$52.93	\$70.43	\$87.92	H H D H D D D D Y				
Four ten hour days may be scheduled Monday-Thursday. Work in excess of 10 hours but less than 12 per day shall be paid at time and one-half. Work in excess of 12 per day shall be paid at double time. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours.										
Crane with boom & jib or leads 300' or longer	EN-324-A300	1/22/2010	\$54.43	\$72.68	\$90.92	H H D H D D D D Y				
Four ten hour days may be scheduled Monday-Thursday. Work in excess of 10 hours but less than 12 per day shall be paid at time and one-half. Work in excess of 12 per day shall be paid at double time. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours.										
Crane with boom & jib or leads 400' or longer	EN-324-A400	1/22/2010	\$55.93	\$74.93	\$93.92	H H D H D D D D Y				
Four ten hour days may be scheduled Monday-Thursday. Work in excess of 10 hours but less than 12 per day shall be paid at time and one-half. Work in excess of 12 per day shall be paid at double time. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours.										
Compressor or welding machine	EN-324-CW	1/22/2010	\$40.96	\$52.47	\$63.98	H H D H D D D D Y				
Four ten hour days may be scheduled Monday-Thursday. Work in excess of 10 hours but less than 12 per day shall be paid at time and one-half. Work in excess of 12 per day shall be paid at double time. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours.										
Forklift, lull, extend-a-boom forklift	EN-324-FL	1/22/2010	\$48.27	\$63.44	\$78.60	H H D H D D D D Y				
Four ten hour days may be scheduled Monday-Thursday. Work in excess of 10 hours but less than 12 per day shall be paid at time and one-half. Work in excess of 12 per day shall be paid at double time. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours.										
Fireman or oiler	EN-324-FO	1/22/2010	\$39.93	\$50.93	\$61.92	H H D H D D D D Y				
Four ten hour days may be scheduled Monday-Thursday. Work in excess of 10 hours but less than 12 per day shall be paid at time and one-half. Work in excess of 12 per day shall be paid at double time. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours.										

Official Request 564
Requestor: TROY SCHOOL DISTRICT
Project Description: DOOR REPLACEMENT

Project Number: DISTRICT WIDE
County: Oakland

Official Rate Schedule
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Classification		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description					
Regular crane, job mechanic, concrete pump with boom	EN-324-RC	1/22/2010	\$50.95	\$67.46	\$83.96	H H D H D D D D Y

Four ten hour days may be scheduled Monday-Thursday.
Work in excess of 10 hours but less than 12 per day shall be paid at time and one-half. Work in excess of 12 per day shall be paid at double time. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours.

Regular engineer, hydro-excavator, remote controlled concrete breaker	EN-324-RE	1/22/2010	\$49.98	\$66.00	\$82.02	H H D H D D D D Y
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Four ten hour days may be scheduled Monday-Thursday.
Work in excess of 10 hours but less than 12 per day shall be paid at time and one-half. Work in excess of 12 per day shall be paid at double time. When bad weather or holiday occurs during this time, Friday may be scheduled for a minimum of 8 hours.

Apprentice Rates:

0-999 hours	\$39.87	\$51.09	\$62.30
1,000-1,999 hours	\$41.48	\$53.50	\$65.52
2,000-2,999 hours	\$43.07	\$55.89	\$68.70
3,000-3,999 hours	\$44.67	\$58.29	\$71.90
4,000-4,999 hours	\$46.27	\$60.68	\$75.10
5,000-5,999 hours	\$47.88	\$63.10	\$78.32

Operating Engineer - Marine Construction

Diver/Wet Tender, Engineer (hydraulic dredge)	GLF-1	1/5/2010	\$57.10	\$74.85	\$92.60	X X H H H H H D Y
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Holiday pay= \$110.35 per hour

<u>Subdivision of county</u>	all Great Lakes, islands therein, & connecting & tributary waters					
Crane/Backhoe Operator, 70 ton or over Tug Operator, Mechanic/Welder, Assistant Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender	GLF-2	1/5/2010	\$55.60	\$72.60	\$89.60	X X H H H H H D Y

Holiday pay = \$106.60 per hour

<u>Subdivision of county</u>	All Great Lakes, islands therein, & connecting & tributary waters					
Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs or more), Tug/Launch Operator, Loader, Dozer on Barge, Deck Machinery	GLF-3	1/5/2010	\$51.85	\$66.98	\$82.10	X X H H H H H D Y

Holiday pay = \$97.22 per hour

<u>Subdivision of county</u>	All Great Lakes, islands therein, & connecting & tributary waters
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Official Request 564
Requestor: TROY SCHOOL DISTRICT
Project Description: DOOR REPLACEMENT

Project Number: DISTRICT WIDE
County: Statewide

Official Rate Schedule

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Classification			Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description						
Deck Equipment Operator, (Machineryman/Fireman), (4 equipment units or more), Off Road Trucks, Deck Hand, Tug Engineer, & Crane Maintenance 50 ton capacity and under or Backhoe 115,000 lbs or less, Assistant Tug Operator	GLF-4		1/5/2010	\$46.75	\$59.33	\$71.90	X X H H H H H D Y

Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters

Operating Engineer Hazardous Waste Class I

Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HWCI-Z1A		10/1/2009	\$49.74	\$65.66	\$81.57	H H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday

Apprentice Rates:

1st 6 months	\$39.70	\$50.85	\$61.99
2nd 6 months	\$41.28	\$53.22	\$65.15
3rd 6 months	\$42.87	\$55.60	\$68.33
4th 6 months	\$44.47	\$58.01	\$71.53
5th 6 months	\$46.06	\$60.38	\$74.71
6th 6 months	\$47.66	\$62.79	\$77.91

Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HWCI-Z1B		10/1/2009	\$48.79	\$64.23	\$79.67	H H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Apprentice Rates:

1st 6 months	\$39.02	\$49.82	\$60.63
2nd 6 months	\$40.57	\$52.15	\$63.73
3rd 6 months	\$42.11	\$54.46	\$66.81
4th 6 months	\$43.65	\$56.77	\$69.89
5th 6 months	\$45.20	\$59.10	\$72.99
6th 6 months	\$46.75	\$61.42	\$76.09

Official Request 564
Requestor: TROY SCHOOL DISTRICT
Project Description: DOOR REPLACEMENT

Project Number: DISTRICT WIDE
County: Oakland

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

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Classification									
Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision			
Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCI-Z1D	10/2/2009	\$47.49	\$62.28	\$77.07	H H H H H H D Y			

Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Apprentice Rates:

1st 6 months	\$38.11	\$48.46	\$58.81
2nd 6 months	\$39.59	\$50.69	\$61.77
3rd 6 months	\$41.08	\$52.92	\$64.75
4th 6 months	\$42.55	\$55.12	\$67.69
5th 6 months	\$44.03	\$57.34	\$70.65
6th 6 months	\$45.50	\$59.54	\$73.59

Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCI-Z1DCL	10/2/2009	\$47.24	\$61.91	\$76.57	H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Apprentice Rates:

1st 6 months	\$37.94	\$48.21	\$58.47
2nd 6 months	\$39.40	\$50.40	\$61.39
3rd 6 months	\$40.87	\$52.60	\$64.33
4th 6 months	\$42.34	\$54.81	\$67.27
5th 6 months	\$43.80	\$56.99	\$70.19
6th 6 months	\$45.26	\$59.19	\$73.11

Operating Engineer Hazardous Waste Class II

Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HWCII-Z1A	10/1/2009	\$45.51	\$59.31	\$73.11	H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday

Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HWCII-Z1B	10/2/2009	\$44.56	\$57.89	\$71.21	H H H H H H D Y
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Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Official Request 564
Requestor: TROY SCHOOL DISTRICT
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County: Oakland

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

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Classification		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision											
Name	Description																
Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCII-Z1D	10/2/2009	\$43.26	\$55.94	\$68.61	H	H	H	H	H	H	H	D	Y			
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.																	
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWCII-Z1DCL	10/2/2009	\$43.01	\$55.56	\$68.11	H	H	H	H	H	H	H	D	Y			
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.																	
Operating Engineer Hazardous Waste Crane w/ Boom & Jib leads 140' or longer																	
Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HW140-Z1A	10/1/2009	\$52.39	\$69.63	\$86.87	H	H	H	H	H	H	H	D	Y			
Four 10 hour days may be worked Monday-Thursday																	
Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HW140-Z1B	10/1/2009	\$51.44	\$68.21	\$84.97	H	H	H	H	H	H	H	D	Y			
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.																	
Level D Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW140-Z1D	10/2/2009	\$50.14	\$66.26	\$82.37	H	H	H	H	H	H	H	D	Y			
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.																	
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW140-Z1DCL	10/2/2009	\$49.89	\$65.88	\$81.87	H	H	H	H	H	H	H	D	Y			
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.																	

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Classification									
Name	Description	Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision			
=====									
Operating Engineer Hazardous Waste Crane w/ Boom & Jib leads 220' or longer									
Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.	EN-324-HW220-Z1A	10/1/2009	\$52.69	\$70.08	\$87.47	H H H H H H D Y			
Four 10 hour days may be worked Monday-Thursday									
Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.	EN-324-HW220-Z1B	10/1/2009	\$51.74	\$68.66	\$85.57	H H H H H H D Y			
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.									
Level D Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW220-Z1D	10/2/2009	\$50.44	\$66.71	\$82.97	H H H H H H D Y			
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.									
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HW220-Z1DCL	10/2/2009	\$50.19	\$66.33	\$82.47	H H H H H H D Y			
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.									
Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with boom									
Level D When Capping Landfill Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWRC-Z1DCL	10/2/2009	\$47.59	\$62.43	\$77.27	H H H H H H D Y			
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.									
Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with Boom Operator									
Level D - Coveralls, safety boots, glasses or chemical splash goggles and hard hats.	EN-324-HWRC-Z1D	10/2/2009	\$48.46	\$63.74	\$79.01	H H H H H H D Y			
Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.									

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Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operator and Concrete Pump with booms

Level B & C protection. B - Pressure demand, full face SCBA or pressure demand supplied air respirator w/ escape SCBA w/chemical resistant clothing. C - Full face piece, air purifying canister-equipped respirator w/chemical resistant clothing.

EN-324-HWRC-Z1B 10/1/2009 \$49.76 \$65.69 \$81.61 H H H H H H D Y

Four 10 hour days may be worked Monday-Thursday with Friday as a straight-time make up day.

Operating Engineer Hazardous Waste Regular Crane, Job Mechanic, Dragline Operator, Boom Truck Operator, Power Shovel Operators and Concrete Pump with booms

Level A - Fully encapsulating chemical resistant suit w/ pressure demand, full face piece SCBA or pressure demand supplied air respirator w/ escape SCBA. The highest available level of respiratory, skin and eye protection.

EN-324-HWRC-Z1A 10/1/2009 \$50.71 \$67.11 \$83.51 H H H H H H D Y

Four 10 hour days may be worked Monday-Thursday

Operating Engineer Steel Work

Forklift, 1 Drum Hoist	EN-324-ef	6/2/2009	\$54.06	\$71.85	\$89.63	H H D H H H D D Y
Crane w/ 120' boom or longer	EN-324-SW120	6/2/2009	\$56.51	\$75.52	\$94.53	H H D H H H D D Y
Crane w/ 120' boom or longer w/ Oiler	EN-324-SW120-O	6/2/2009	\$57.51	\$77.02	\$96.53	H H D H H H D D Y
Crane w/ 140' boom or longer	EN-324-SW140	6/2/2009	\$57.69	\$77.29	\$96.89	H H D H H H D D Y
Crane w/ 140' boom or longer W/ Oiler	EN-324-SW140-O	6/2/2009	\$58.69	\$78.79	\$98.89	H H D H H H D D Y
Boom & Jib 220' or longer	EN-324-SW220	6/2/2009	\$57.96	\$77.70	\$97.43	H H D H H H D D Y
Crane w/ 220' boom or longer w/ Oiler	EN-324-SW220-O	6/2/2009	\$58.96	\$79.20	\$99.43	H H D H H H D D Y
Boom & Jib 300' or longer	EN-324-SW300	6/2/2009	\$59.46	\$79.95	\$100.43	H H D H H H D D Y
Crane w/ 300' boom or longer w/ Oiler	EN-324-SW300-O	6/2/2009	\$60.46	\$81.45	\$102.43	H H D H H H D D Y
Boom & Jib 400' or longer	EN-324-SW400	6/2/2009	\$60.96	\$82.20	\$103.43	H H D H H H D D Y

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Project Description: DOOR REPLACEMENT

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Crane w/ 400' boom or longer w/ Oiler	EN-324-SW400-O	6/2/2009	\$61.96	\$83.70	\$105.43	H H D H H H D D Y
Crane Operator, Job Mechanic, 3 Drum Hoist &	EN-324-SWCO	6/2/2009	\$56.15	\$74.98	\$93.81	H H D H H H D D Y
Apprentice Rates:						
0-999 hours			\$44.35	\$57.53	\$70.71	
1,000-1,999 hours			\$46.23	\$60.35	\$74.47	
2,000-2,999 hours			\$48.12	\$63.19	\$78.25	
3,000-3,999 hours			\$50.01	\$66.02	\$82.03	
4,000-4,999 hours			\$51.89	\$68.84	\$85.79	
5,000 hours			\$53.77	\$71.66	\$89.55	
Crane w/ Oiler	EN-324-SWCO-O	6/2/2009	\$57.15	\$76.48	\$95.81	H H D H H H D D Y
Compressor or Welder Operator	EN-324-SWCW	6/2/2009	\$48.70	\$63.81	\$78.91	H H D H H H D D Y
Hoisting Operator, 2 Drum Hoist, & Rubber Tire Backhoe	EN-324-SWHO	6/2/2009	\$55.51	\$74.02	\$92.53	H H D H H H D D Y
Oiler	EN-324-SWO	6/2/2009	\$47.29	\$61.69	\$76.09	H H D H H H D D Y
Tower Crane & Derrick where work is 50' or more above first level	EN-324-SWTD50	6/2/2009	\$57.24	\$76.62	\$95.99	H H D H H H D D Y
Tower Crane & Derrick 50' or more w/ Oiler where work station is 50' or more above first level	EN-324-SWTD50-O	6/2/2009	\$58.24	\$78.12	\$97.99	H H D H H H D D Y
Operating Engineer Underground						
Class I Equipment	EN-324A1-UC1	9/10/2009	\$47.24	\$61.88	\$76.52	H H H H H H H D Y
Apprentice Rates:						
0-999 hours			\$37.95	\$48.20	\$58.44	
1,000-1,999 hours			\$39.43	\$50.42	\$61.40	
2,000-2,999 hours			\$40.89	\$52.61	\$64.32	
3,000-3,999 hours			\$42.35	\$54.80	\$67.24	
4,000-4,999 hours			\$43.81	\$56.98	\$70.16	
5,000-5,999 hours			\$45.28	\$59.19	\$73.10	
Class II Equipment	EN-324A1-UC2	9/10/2009	\$42.51	\$54.79	\$67.06	H H H H H H H D Y
Class III Equipment	EN-324A1-UC3	9/10/2009	\$41.78	\$53.69	\$65.60	H H H H H H H D Y
Class IV Equipment	EN-324A1-UC4	9/10/2009	\$41.21	\$52.84	\$64.46	H H H H H H H D Y

Official Request 564
 Requestor: TROY SCHOOL DISTRICT
 Project Description: DOOR REPLACEMENT
 Project Number: DISTRICT WIDE
 County: Oakland

Official Rate Schedule
 Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Official 2010 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/12/2010

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Classification			Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description						
Master Mechanic	EN-324A1-UMM		9/10/2009	\$47.49	\$62.26	\$77.02	H H H H H H D Y
Painter							
Painter (8 hours of repaint work performed on Sunday shall be paid time & one half rate)	PT-22-P		10/15/2009	\$39.86	\$52.22	\$64.57	H H D H D D D D Y
Four 10s allowed Monday-Thursday with Friday makeup day if job down due to weather, holiday or other conditions beyond the control of the employer.							
Apprentice Rates:							
First 6 months				\$27.51	\$33.69	\$39.87	
Second 6 months				\$31.21	\$39.24	\$47.27	
Third 6 months				\$32.45	\$41.10	\$49.75	
Fourth 6 months				\$33.68	\$42.95	\$52.21	
Fifth 6 months				\$34.92	\$44.81	\$54.69	
Final 6 months				\$36.15	\$46.65	\$57.15	
Pipe and Manhole Rehab							
General Laborer for rehab work or normal cleaning and cctv work-top man, scaffold man, CCTV assistant, jetter-vac assistant	TM247		6/16/2009	\$26.00	\$34.90		H H H H H H H H N
Tap cutter/CCTV Tech/Grout Equipment Operator: unit driver and operator of CCTV; grouting equipment and tap cutting equipment	TM247-2		6/16/2009	\$30.50	\$41.65		H H H H H H H H N
CCTV Technician/Combo Unit Operator: unit driver and operator of cctv unit or combo unit in connection with normal cleaning and televising work	TM247-3		6/16/2009	\$29.25	\$39.77		H H H H H H H H N
Boiler Operator: unit driver and operator of steam/water heater units and all ancillary equipment associated	TM247-4		6/16/2009	\$31.00	\$42.40		H H H H H H H H N
Combo Unit driver & Jetter-Vac Operator	TM247-5		6/22/2009	\$31.00	\$42.40		H H H H H H H H N
Pipe Bursting & Slip-lining Equipment Operator	TM247-6		6/22/2009	\$32.00	\$43.90		H H H H H H H H N

Official Request 564
 Requestor: TROY SCHOOL DISTRICT
 Project Description: DOOR REPLACEMENT
 Project Number: DISTRICT WIDE
 County: Statewide

Official Rate Schedule
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Official 2010 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/12/2010

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Classification		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description					
=====						
Pipefitter						
Pipefitter	PF-636	7/9/2009	\$59.71	\$79.56	\$95.91	H H D H D D D N
	Apprentice Rates:					
	1st & 2nd periods		\$26.33	\$34.68	\$41.68	
	3rd period		\$28.33	\$37.68	\$45.68	
	4th period		\$29.58	\$39.56	\$48.18	
	5th period		\$30.83	\$41.43	\$50.68	
	6th period		\$32.08	\$43.30	\$53.18	
	7th period		\$33.33	\$45.18	\$55.68	
	8th period		\$34.33	\$46.68	\$57.68	
	9th period		\$35.33	\$48.18	\$59.68	
	10th period		\$36.76	\$50.32	\$62.54	
Plasterer						
Plasterer	BR1P	12/16/2008	\$43.84	\$65.76	\$87.68	H H H H H H D N
	Apprentice Rates:					
	1st 6 months		\$22.41	\$33.62	\$44.82	
	2nd 6 months		\$25.99	\$38.99	\$51.98	
	3rd 6 months		\$29.56	\$44.34	\$59.12	
	4th 6 months		\$33.13	\$49.70	\$66.26	
	5th 6 months		\$36.70	\$55.05	\$73.40	
	6th 6 months		\$40.27	\$60.41	\$80.54	
Plasterer	PL67	6/4/2007	\$42.87	\$58.16	\$73.45	H H H X D D D N
	Apprentice Rates:					
	1st 6 months		\$24.52	\$30.63	\$36.75	
	2nd 6 months		\$27.58	\$35.23	\$42.87	
	3rd 6 months		\$30.64	\$39.81	\$48.99	
	4th 6 months		\$33.70	\$44.41	\$55.11	
	5th 6 months		\$36.75	\$48.98	\$61.21	
	6th 6 months		\$39.81	\$53.57	\$67.33	

Official Request 564
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Official 2010 Prevailing Wage Rates for State Funded Projects

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Classification		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision	
Name	Description						
=====							
Plumber							
Plumber	PL-98	8/18/2009	\$57.58	\$74.45	\$89.31	H H D H D D D N	
Apprentice Rates:							
Period 1			\$17.76	\$24.31	\$30.86		
Period 2			\$17.76	\$24.31	\$30.86		
Period 3			\$30.79	\$39.88	\$48.96		
Period 4			\$31.42	\$40.82	\$50.22		
Period 5			\$32.58	\$42.56	\$52.54		
Period 6			\$33.73	\$44.28	\$54.84		
Period 7			\$34.88	\$43.61	\$54.74		
Period 8			\$36.05	\$47.76	\$59.48		
Period 9			\$37.20	\$49.49	\$61.78		
Period 10		\$38.35	\$51.22	\$64.08			
Roofer							
Commercial Roofer	RO-149-WOM	8/18/2008	\$48.46	\$62.29	\$76.62	H H D H H H D N	
Straight time is not to exceed ten (10) hours per day or forty (40) hours per week.							
Apprentice Rates:							
Apprentice 1			\$32.62	\$39.86	\$48.04		
Apprentice 2			\$36.80	\$44.80	\$53.30		
Apprentice 3			\$38.22	\$46.93	\$56.14		
Apprentice 4			\$39.25	\$48.48	\$58.20		
Apprentice 5			\$40.47	\$50.30	\$60.64		
Apprentice 6			\$41.87	\$52.40	\$63.44		
Sewer Relining							
Class I-Operator of audio visual CCTV system including remote in-ground cutter and other equipment used in conjunction with CCTV system.	SR-I		11/10/2009	\$40.32	\$54.65	\$68.97	H H H H H H D N
Class II-Operator of hot water heaters and circulation system; water jetters; and vacuum and mechanical debris removal systems and those assisting.	SR-II	\$38.79		\$52.35	\$65.91	H H H H H H D N	
Sheet Metal Worker							
Sheet Metal Worker	SHM-80	8/18/2009	\$57.23	\$74.59	\$91.94	H H D H D D D Y	
A 4 10 schedule may be worked during Monday thru							
Apprentice Rates:							
First Year			\$39.07	\$47.92	\$56.75		
Second Year			\$40.39	\$49.89	\$59.39		
Third Year			\$41.75	\$51.93	\$62.11		
Fourth Year			\$44.42	\$55.93	\$67.45		
Fifth Year		\$47.12	\$59.99	\$72.85			

Official Request 564
 Requestor: TROY SCHOOL DISTRICT
 Project Description: DOOR REPLACEMENT
 Project Number: DISTRICT WIDE
 County: Oakland

Official Rate Schedule

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Official 2010 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/12/2010

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Classification		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description					
Siding & Decking	SHM-80-SD	9/2/2009	\$39.32	\$51.57	\$63.82	H H H H H H D Y
Sprinkler Fitter						
Sprinkler Fitter	SP 704	12/29/2009	\$59.87	\$78.91	\$97.95	H H D H D D D D Y
4 ten hour days allowed Monday-Friday only in those weeks containing a holiday and the preceding or succeeding the holiday week						

Apprentice Rates:

1st Period	\$23.88	\$31.49	\$39.11
2nd Period	\$38.93	\$47.50	\$56.07
3rd Period	\$40.83	\$50.35	\$59.87
4th Period	\$42.73	\$53.20	\$63.67
5th Period	\$44.64	\$56.07	\$67.49
6th Period	\$46.54	\$58.91	\$71.29
7th Period	\$48.45	\$61.78	\$75.11
8th Period	\$50.35	\$64.63	\$78.91
9th Period	\$52.25	\$67.48	\$82.71
10th Period	\$54.16	\$70.35	\$86.53

Terrazzo

Terrazzo Finisher	BR1-TRF	8/11/2009	\$41.84	\$52.56	\$63.28	H H D H D D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.						

Apprentice Rates:

Level 1	\$18.11	\$24.00	\$29.89
Level 2	\$19.25	\$25.71	\$32.17
Level 3	\$25.69	\$32.40	\$39.12
Level 4	\$27.09	\$34.50	\$41.92
Level 5	\$28.53	\$36.15	\$43.77
Level 6	\$30.07	\$38.06	\$46.06
Level 7	\$31.68	\$39.73	\$47.79
Level 8	\$33.10	\$41.42	\$49.74

Official Request 564
 Requestor: TROY SCHOOL DISTRICT
 Project Description: DOOR REPLACEMENT
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 County: Oakland

Official Rate Schedule

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Official 2010 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/12/2010

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Classification			Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description						
Terrazzo Worker	BR1-TRW			\$47.31	\$60.77	\$74.22	H H D H D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.							
			8/11/2009				

Apprentice Rates:

Level 1	\$23.92	\$31.19	\$38.47
Level 2	\$26.83	\$34.85	\$42.87
Level 3	\$31.79	\$40.02	\$48.26
Level 4	\$34.40	\$43.55	\$52.69
Level 5	\$36.55	\$45.94	\$55.33
Level 6	\$40.04	\$51.10	\$62.16
Level 7	\$40.67	\$51.90	\$63.14
Level 8	\$41.56	\$53.24	\$64.92

Tile

Tile Finisher	BR1-TF			\$41.39	\$51.89	\$62.38	H H D H D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.							
			8/11/2009				

Apprentice Rates:

Level 1	\$18.11	\$24.00	\$29.89
Level 2	\$19.25	\$25.71	\$32.17
Level 3	\$25.69	\$32.40	\$39.12
Level 4	\$27.09	\$34.50	\$41.92
Level 5	\$28.53	\$36.15	\$43.77
Level 6	\$30.07	\$38.06	\$46.06
Level 7	\$31.68	\$39.73	\$47.79
Level 8	\$33.10	\$41.42	\$49.74

Tile Layer	BR1-TL			\$47.26	\$60.69	\$74.12	H H D H D D D Y
A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.							
			8/11/2009				

Apprentice Rates:

Level 1	\$23.92	\$31.19	\$38.47
Level 2	\$26.83	\$34.85	\$42.87
Level 3	\$31.79	\$40.02	\$48.26
Level 4	\$34.40	\$43.55	\$52.69
Level 5	\$36.55	\$45.94	\$55.33
Level 6	\$40.04	\$51.10	\$62.16
Level 7	\$40.67	\$51.90	\$63.14
Level 8	\$41.56	\$53.24	\$64.92

Truck Driver

on all trucks of 8 cubic yard capacity or less	TM-RB1			\$36.84	\$36.44		H H H H H H H Y
			9/17/2009				

Official Request 564
 Requestor: TROY SCHOOL DISTRICT
 Project Description: DOOR REPLACEMENT
 Project Number: DISTRICT WIDE
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Official 2010 Prevailing Wage Rates for State Funded Projects

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Classification		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description					
of all trucks of 8 cubic yard capacity or over	TM-RB1A	9/17/2009	\$36.94	\$36.59		H H H H H H H Y
on euclid type equipment	TM-RB1B	9/17/2009	\$37.09	\$36.81		H H H H H H H Y
Underground Laborer Open Cut, Class I						
Construction Laborer	LAUC-Z1-1	9/10/2009	\$34.39	\$45.00	\$55.61	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$29.61	\$37.83	\$46.05	
1,001-2,000 work hours			\$30.57	\$39.27	\$47.97	
2,001-3,000 work hours			\$31.52	\$40.70	\$49.87	
3,001-4,000 work hours			\$33.43	\$43.56	\$53.69	
Underground Laborer Open Cut, Class II						
Mortar and material mixer, concrete form man, signal man, well point man, manhole, headwall and catch basin builder, guard rail builders, headwall, seawall, breakwall, dock builder and fence erector.	LAUC-Z1-2	9/10/2009	\$34.50	\$45.17	\$55.83	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$29.69	\$37.95	\$46.21	
1,001-2,000 work hours			\$30.65	\$39.39	\$48.13	
2,001-3,000 work hours			\$31.62	\$40.84	\$50.07	
3,001-4,000 work hours			\$33.54	\$43.72	\$53.91	
Underground Laborer Open Cut, Class III						
Air, gasoline and electric tool operator, vibrator operator, drillers, pump man, tar kettle operator, bracers, rodder, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars, etc.), cement finisher, welder, pipe jacking and boring man, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger man, and directional boring man.	LAUC-Z1-3	9/10/2009	\$34.55	\$45.24	\$55.93	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$29.73	\$38.01	\$46.29	
1,001-2,000 work hours			\$30.69	\$39.45	\$48.21	
2,001-3,000 work hours			\$31.66	\$40.90	\$50.15	
3,001-4,000 work hours			\$33.59	\$43.80	\$54.01	
Underground Laborer Open Cut, Class IV						
Trench or excavating grade man.	LAUC-Z1-4	9/10/2009	\$34.63	\$45.36	\$56.09	H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			\$29.79	\$38.10	\$46.41	
1,001-2,000 work hours			\$30.76	\$39.56	\$48.35	
2,001-3,000 work hours			\$31.73	\$41.01	\$50.29	
3,001-4,000 work hours			\$33.66	\$43.90	\$54.15	

Official Request 564
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Classification			Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Name	Description						
=====							
Underground Laborer Open Cut, Class V							
Pipe Layer		LAUC-Z1-5	9/10/2009	\$34.69	\$45.45	\$56.21	H H H H H H D Y
	Apprentice Rates:						
	0-1,000 work hours			\$29.83	\$38.16	\$46.49	
	1,001-2,000 work hours			\$30.81	\$39.63	\$48.45	
	2,001-3,000 work hours			\$31.78	\$41.08	\$50.39	
	3,001-4,000 work hours			\$33.72	\$44.00	\$54.27	
Underground Laborer Open Cut, Class VI							
Grouting man, top man assistant, audio visual television operations and all other operations in connection with closed circuit television inspection, pipe cleaning and pipe relining work and the installation and repair of water service pipe and appurtenances.		LAUC-Z1-6	9/10/2009	\$32.14	\$41.63	\$51.11	H H H H H H D Y
	Apprentice Rates:						
	0-1,000 work hours			\$27.92	\$35.30	\$42.67	
	1,001-2,000 work hours			\$28.77	\$36.57	\$44.37	
	2,001-3,000 work hours			\$29.61	\$37.83	\$46.05	
	3,001-4,000 work hours			\$31.30	\$40.36	\$49.43	
Underground Laborer Open Cut, Class VII							
Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes, flagstones etc.		LAUC-Z1-7	9/10/2009	\$28.76	\$36.56	\$44.35	H H H H H H D Y
	Apprentice Rates:						
	0-1,000 work hours			\$25.39	\$31.50	\$37.61	
	1,001-2,000 work hours			\$26.06	\$32.50	\$38.95	
	2,001-3,000 work hours			\$26.74	\$33.52	\$40.31	
	3,001-4,000 work hours			\$28.09	\$35.55	\$43.01	

Official Request 564
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ENGINEERS - CLASSES OF EQUIPMENT LIST

UNDERGROUND ENGINEERS

CLASS I

Backfiller Tamper, Backhoe, Batch Plant Operator, Clam-Shell, Concrete Paver (2 drums or larger), Conveyor Loader (Euclid type), Crane (crawler, truck type or pile driving), Dozer, Dragline, Elevating Grader, End Loader, Gradall (and similar type machine), Grader, Power Shovel, Roller (asphalt), Scraper (self propelled or tractor drawn), Side Broom Tractor (type D-4 or larger), Slope Paver, Trencher (over 8' digging capacity), Well Drilling Rig, Mechanic, Slip Form Paver, Hydro Excavator.

CLASS II

Boom Truck (power swing type boom), Crusher, Hoist, Pump (1 or more 6" discharge or larger gas or diesel powered by generator of 300 amps or more, inclusive of generator), Side Boom Tractor (smaller than type D-4 or equivalent), Tractor (pneu-tired, other than backhoe or front end loader), Trencher (8' digging capacity and smaller), Vac Truck.

CLASS III

Air Compressors (600 cfm or larger), Air Compressors (2 or more less than 600 cfm), Boom Truck (non-swinging, non-powered type boom), Concrete Breaker (self-propelled or truck mounted, includes compressor), Concrete Paver (1 drum, ½ yard or larger), Elevator (other than passenger), Maintenance Man, Mechanic Helper, Pump (2 or more 4" up to 6" discharge, gas or diesel powered, excluding submersible pump), Pumpcrete Machine (and similar equipment), Wagon Drill Machine, Welding Machine or Generator (2 or more 300 amp or larger, gas or diesel powered).

CLASS IV

Boiler, Concrete Saw (40HP or over), Curing Machine (self-propelled), Farm Tractor (w/attachment), Finishing Machine (concrete), Firemen, Hydraulic Pipe Pushing Machine, Mulching Equipment, Oiler (2 or more up to 4", exclude submersible), Pumps (2 or more up to 4" discharge if used 3 hrs or more a day-gas or diesel powered, excluding submersible pumps), Roller (other than asphalt), Stump Remover, Vibrating Compaction Equipment (6' wide or over), Trencher (service) Sweeper (Wayne type and similar equipment), Water Wagon, Extend-a-Boom Forklift.

HAZARDOUS WASTE ABATEMENT ENGINEERS

CLASS I

Backhoe, Batch Plant Operator, Clamshell, Concrete Breaker when attached to hoe, Concrete Cleaning Decontamination Machine Operator, Concrete Pump, Concrete Paver, Crusher, Dozer, Elevating Grader, Endloader, Farm Tractor (90 h.p. and higher), Gradall, Grader, Heavy Equipment Robotics Operator, Hydro Excavator, Loader, Pug Mill, Pumpcrete Machines, Pump Trucks, Roller, Scraper (self-propelled or tractor drawn), Side Boom Tractor, Slip Form Paver, Slope Paver, Trencher, Ultra High Pressure Waterjet Cutting Tool System Operator, Vactors, Vacuum Blasting Machine Operator, Vertical Lifting Hoist, Vibrating Compaction Equipment (self-propelled), and Well Drilling Rig.

CLASS II

Air Compressor, Concrete Breaker when not attached to hoe, Elevator, End Dumps, Equipment Decontamination Operator, Farm Tractor (less than 90 h.p.), Forklift, Generator, Heater, Mulcher, Pigs (Portable Reagent Storage Tanks), Power Screens, Pumps (water), Stationary Compressed Air Plant, Sweeper, Water Wagon and Welding Machine.

Revised: 05/23/08

Michigan Department Energy, Labor & Economic Growth
Wage & Hour Division
Overtime Provisions for MICHIGAN PREVAILING WAGE RATE
COMMERCIAL SCHEDULE

1. Overtime is represented as a nine character code. Each character represents a certain period of time after the first 8 hours Monday thru Friday.

	Monday thru Friday	Saturday	Sunday & Holidays	Four 10s
First 8 Hours		4	8	9
9th Hour	1	5		
10th Hour	2	6		
Over 10 hours	3	7		

Overtime for Monday thru Friday after 8 hours:

the 1st character is for time worked in the 9th hour (8.1 - 9 hours)

the 2nd character is for time worked in the 10th hour (9.1 - 10 hours)

the 3rd character is for time worked beyond the 10th hour (10.1 and beyond)

Overtime on Saturday:

the 4th character is for time worked in the first 8 hours on Saturday (0 - 8 hours)

the 5th character is for time worked in the 9th hour on Saturday (8.1 - 9 hours)

the 6th character is for time worked in the 10th hour (9.1 - 10 hours)

the 7th character is for time worked beyond the 10th hour (10.01 and beyond)

Overtime on Sundays & Holidays

The 8th character is for time worked on Sunday or on a holiday

Four Ten Hour Days

The 9th character indicates if an optional 4-day 10-hour per day workweek can be worked ***between Monday and Friday without paying overtime after 8 hours worked, unless otherwise noted in the rate schedule. To utilize a 4 ten workweek, notice is required from the employer to employee prior to the start of work on the project.***

2. Overtime Indicators Used in the Overtime Provision:

H - means TIME AND ONE-HALF due

X - means TIME AND ONE-HALF due after 40 HOURS worked

D - means DOUBLE PAY due

Y - means YES an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked

N - means NO an optional 4-day 10-hour per day workweek *can not* be worked without paying overtime after 8 hours worked

3. EXAMPLES:

HHHHHHHDN - This example shows that the 1½ rate must be used for time worked after 8 hours Monday thru Friday (*characters 1 - 3*); for all hours worked on Saturday, 1½ rate is due (*characters 4 - 7*). Work done on Sundays or holidays must be paid double time (*character 8*). The N (*character 9*) indicates that 4 ten-hour days is not an acceptable workweek at regular pay.

XXXHHHHHDY - This example shows that the 1½ rate must be used for time worked after 40 hours are worked Monday thru Friday (*characters 1-3*); for hours worked on Saturday, 1½ rate is due (*characters 4 - 7*). Work done on Sundays or holidays must be paid double time (*character 8*). The Y (*character 9*) indicates that 4 ten-hour days is an acceptable alternative workweek.

(REV 09/29/09)

SECTION 01 11 00

SUMMARY OF THE WORK

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. This Section includes the following:

1. Work covered by the Contract Documents.
2. Work phases.
3. Work under other contracts.
4. Use of premises.
5. Owner's occupancy requirements.
6. Punchlist Completion.
7. Work restrictions.
8. Specification formats and conventions.

- B. Related Sections include the following:

1. Division 1 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.03 PROJECT IDENTIFICATION

- A. Project Name: 2010 District-Wide Exterior Door Replacement Project
Bid No. 9672
1140 Rankin
Troy, Michigan, 48083
- B. Owner: Troy School District
1140 Rankin
Troy, Michigan, 48083
1. Owner's Project Coordinator: Mondo Belardi, Director of Maintenance
1140 Rankin
Troy, Michigan, 48083
Ph: (248) 823-4050
- C. Architect: Wold Architects and Engineers
202 East 3rd Street, Suite 200
Royal Oak, Michigan 48067

1.04 SUMMARY OF THE WORK

Briefly and without force and effect upon the Contract Documents, the Work of this single prime Contract can be summarized as follows:

- A. Contractor is to provide a Bid for each site listed in Base Bid "A" (Drawing A1.1) thru Base Bid "K" (Drawing A1.12). Provide the actual Total of all Base Bids ("A" thru "K") in the space provided on the Bid Form.
- B. Work under this Contract includes:
 - 1. Building Enclosure
 - a. Aluminum curtainwall systems and glazing, FRP Doors, Aluminum Louvers and Hardware.
 - 2. Keep Architect fully informed about progress of the work, performance of the work and potential problems.

1.05 WORK PHASES

- A. Start work immediately upon contract award by the Board of Education.

1.06 WORK UNDER OTHER CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.
- B. Concurrent Work: Owner will award separate contract(s) for the following construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract.
 - 1. Card Reader and Security System installation associated with exterior door replacement at the Athens High School Site will be performed by MCMI.
Contact Information: MCMI
Attn: Evan Cossette
6540 Diplomat Drive
Sterling Heights, Michigan 48314
Ph: (585) 726-7500

1.07 USE OF PREMISES

- A. General: Contractor shall have full use of premises for construction operations, including use of Project site, during construction period. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.
 - 1. Contractor is to visit site and be familiar with existing conditions. Contractor will be required to accept existing conditions on site prior to mobilizing.
- B. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Allow for Owner occupancy of Project site and use by the public.
 - 2. Driveways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.

- b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- 3. Public Streets: Maintain clear of automobile parking, equipment or material storage unless arrangements have been made with the appropriate jurisdiction.
- 4. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.
- C. Do not allow construction waste and debris to accumulate; remove debris as it accumulates and, unless specified otherwise, dispose of legally off-site.
- D. Conform to City's noise control regulations, including limited hours of construction operations.
- E. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

1.08 LAYING OUT WORK

- A. Locate all general reference points. Where dimensions or observed scope of work differ substantially from Drawings, notify Architect for decision.
- B. Lay out Work from the reference points furnished and be responsible for all lines, elevations, and measurements inside workspace. Exercise proper precaution to verify figures shown on Drawings before laying out work and will be held responsible for any error resulting from his failure to exercise such precaution.
- C. Hire the services of a locator company to locate all privately owned utilities that may be disturbed by construction operations.
- D. Coordinate utility connections with municipality/utility company in which project is being constructed.

1.09 OWNER'S OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: Owner will occupy portions of the site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
 - 2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.
- B. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
 - 1. Architect will prepare a punchlist for each specific portion of the Work to be occupied before Owner move in.
 - 2. Obtain a temporary Certificate of Occupancy if required from authorities having jurisdiction before Owner occupancy to install furnishings and equipment.

1.10 WORK RESTRICTIONS

- A. The Contractor shall limit access to grounds as indicated on Civil Drawings.
- B. The Contractor's access to and use of the site/facility for completion of work shall be subject to the following:
1. Should the Contractor have additional work to complete after August 20, 2010 including punchlist work within the existing building, continuous use of facilities is required by the Owner as follows:
 - Elementary School Buildings (Bernard, Bemis, Costello, Hamilton, Martel, Troy-Union and Wass) Hours of Operation are 8:00 a.m. to 4:00 p.m.
 - Middle School Buildings (Smith Middle School) Hours of Operation are 8:00 a.m. to 3:00 p.m.
 - High School Buildings (Athens and Troy High School) Hours of Operation are 7:30 a.m. to 2:30 p.m.

Work in those areas shall occur during evenings and weekends and shall be cleaned and available for use the following school or business day.

 - a. Coordinate schedule with Owner's designated building representative.
 - b. The school District will work summer school around other areas under construction. Work in circulation areas shall be managed to allow for continuous use of the facility. Provide dust control in these areas.
 2. Should the Contractor choose to perform work after normal business hours when the building is occupied, the Contractor shall:
 - a. Maintain access, building utilities, and services to allow full and free use of the facility during this time. All temporary conditions, re-routing of services, utilities and/or power are the Contractor's responsibility.
 - b. Coordinate access and storage of materials and equipment with the Owner's designated building representative. To the fullest extent possible provide for normal building operation, and the safety of the building's occupants. Work in areas that occur during evenings and weekends shall be cleaned and available for use the following business day.
 - c. Coordinate schedule with the Owner's designated building representative.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Architect not less than seven (7) days in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without Architect's or Owner's permission.

1.12 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Division and Sections using the 49-division format and CSI/CSC's "Master Format" numbering system.
1. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the

sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words “shall,” “shall be,” or “shall comply with,” depending on the context, are implied where a colon (:) is used within a sentence or phrase.

END OF SECTION 01 11 00

SECTION 01 22 00

UNIT PRICES

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

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

PART 2: PRODUCTS – (Not Applicable).

PART 3: EXECUTION

3.01 UNIT PRICE SCHEDULE

- A. Unit Price #1: Add/Deduct Door
1. Provide a cost (labor and materials) to add or deduct one (1) door (FRP Door and hardware). Door size to account for one (1) 3'-0" x 7'-0" door.
- B. Unit Price #2: Add/Deduct Single Door Opening
1. Provide a cost (labor and materials) to add or deduct one (1) opening (aluminum frame, FRP door and hardware). Opening size to account for a 3'-4" x 8'-2" opening (3'-0" x 8'-0" door).
- C. Unit Price #3: Add/Deduct Pair of Doors Opening

1. Provide a cost (labor and materials) to add or deduct one (1) opening (aluminum frame, two (2) RFP Doors and hardware). Opening size to account for a 6'-4" x 8'-2" opening (two (2) 3'-0" x 8'-0" doors).

END OF SECTION 01 22 00

SECTION 01 25 00

SUBSTITUTIONS AND PRODUCT OPTIONS

PART 1: GENERAL

1.01 DESCRIPTION

- A. This Section defines procedures to be followed to gain acceptance of products in the Work which are not listed in the individual specification sections. A two step process is required.
- B. Requests for acceptance for bidding purposes of alternative manufacturers is encouraged except where specifically prohibited by this Project Manual.

1.02 PRODUCT OPTIONS NOT REQUIRING PRE-BID SUBMITTAL

- A. Where products are specified by reference standards, any product established by a material testing agency to meet these standards is acceptable.
- B. Where multiple manufacturers and associated models are specified, select any one named.
- C. Where manufacturer(s) alone are specified, select any manufacturer and the product recommended in writing by the manufacturer as most suited to the application shown on the Drawings and Specifications.
- D. Where the phrase "or equal" follows the name of a manufacturer, any product which meets the performance and appearance standards established by the specified manufacturer may be selected, subject to the Architect's acceptance.
- E. Where a manufacturer is listed in both a technical specification section and the Material Finish/Color Schedule, Section 14000 of Details of Construction and a color is provided.

1.03 PRODUCT SUBSTITUTIONS REQUIRING PRE-BID SUBMITTALS

- A. Step One - Manufacturers Acceptance
 - 1. Individual specification sections may be amended by the Architect during the bid period to include additional names of manufacturers determined to be capable of providing acceptable materials.
 - 2. The Material Finish/Color Schedule for each building site as shown on the Drawings may be amended by the Architect during the bid period to include colors by manufacturers listed in technical sections, but not noted on the Material Finish/Color Schedule for each building site as shown on the Drawings.
 - 3. To propose the names of specific manufacturers, submit, or arrange for suppliers to submit, written requests to Architect or appropriate Architect's Consultant. Requests received ten (10) calendar days prior to bid date will be considered.
 - a. Provide sufficient review data. Include specified manufacturer's model numbers and proposed manufacturer's product literature, noting product numbers for proposed substitutions, and where appropriate, samples and data relating to construction details. If the product is not identical to specified product, submit letter stating proposed manufacturer will custom make products to meet specified product.
 - b. Architect's acceptance is based upon his determination that a manufacturer is capable of supplying acceptable materials. Approval is not assured or implied for a specific material, item of equipment, color or finish.

- c. Official notification will be by addendum to the Contract Documents. However, in addition, if letters of request are delivered in duplicate with accompanying stamped self addressed envelopes, copies may be returned with Architect's decision in advance.

B. Step Two - Product Acceptance

1. Upon award of a construction contract, accepted manufacturers may submit for review to the Architect through the General Contractor or Construction Manager, specific products, materials or equipment items as substitutes for those specified. Contractor to provide letter stating they will reimburse Architect to review substitutions.
2. Architect will review substitute products for performance, appearance, color, finish, size and suitability for inclusion in the work. If a substitute product is not accepted, submit another product by the same or other accepted manufacturer or provide the specified product.
3. Match specified colors and dimensions exactly, whether or not they are standard with the substitute product, unless a minor variation is accepted by the Architect.
4. If a substitute product is accepted, coordinate any necessary changes in other related work and pay for these changes. Pay cost of architectural or engineering services, if any, required to incorporate substitute products in the Work.

1.04 SUBSTITUTIONS BY CHANGE ORDER

- A. A substitution for a specified product may be permitted by "change order" at no additional cost to the Owner if product proposed is determined to be equivalent in performance and suitability, and if at least one of the following conditions apply:
 1. Owner is given a credit for the work.
 2. Product is of superior quality than product specified.
 3. Product color or finish selection is preferable.
 4. Products specified and upon which building is designed have been discontinued by manufacturer.
- B. Provide Architect, through Owner, reasonable compensation for product evaluation.

END OF SECTION 01 25 00

SECTION 01 26 63

CHANGE ORDERS

1.01 CHANGE ORDER PROCEDURES

- A. Changes in the Project scope of work affecting the project cost can be made only through AIA Document G701 - Change Order.
- B. The procedures for processing changes in the scope of Work are listed as follows:
 - 1. The Architect prepares one of the following documents to modify the scope of work.
 - a. Supplemental Instructions (SI) which are used for no cost changes.
 - b. Proposal Request (PR) to be used for proposed changes that need written approval on cost prior to proceeding.
 - c. Construction Change Directive AIA Document G714 (CCD) which is used when the work must proceed immediately and time and material cost submitted as soon as possible for review by the Architect.
 - 2. The Contractor reviews and responds as follows:
 - a. Supplemental Instructions (SI): This no cost change is to be carried out in accordance with the following modifications to the contract documents described herein. If this change effects cost, do not proceed with this change. Notify the Architect in writing within 10 days of receipt that an itemized (labor and material) quotation will be submitted within 21 days of initial receipt of this Supplemental Instruction. If a cost is not submitted within 21 days, this Supplemental Instruction will be accepted at no additional cost.
 - b. Proposal Request (PR): Submit an itemized (labor and material) quotation for the proposed modifications to the contract documents as described herein within 21 days of receipt. If a cost is not submitted within 21 days, this Proposal Request can be accepted at no additional cost. Written approval is required prior to proceeding with this change.
 - c. Construction Change Directive AIA Document G714 (CCD): Proceed immediately to carry out this change in the contract documents as described herein. If this revision effects cost, submit an itemized (labor and material) quotation within 21 days of receipt. If a cost is not submitted within 21 days this Change Directive will be accepted at no additional cost.
 - 3. The Architect will review the Contractor's labor and material itemized quotation and respond in writing whether it is acceptable or needs revision. When all pricing is accepted by the Architect and Owner, a Change Order will be processed. Change Orders will be processed at increments determined by the Architect throughout the construction schedule.
- C. See General Conditions and Supplementary Conditions of the Work for methods of determining cost or credit, mark-up and schedule on submitting claims.

END OF SECTION 01 26 63

SECTION 01 31 19
PROJECT MEETINGS

PART 1: GENERAL

1.01 DESCRIPTION

- A. Schedule and administer pre-construction meeting, periodic progress meetings, and specially called meetings throughout the progress of the work.
 - 1. Notify Architect in advance.
 - 2. Prepare agenda for meetings.
 - 3. Make physical arrangements for meetings.
 - 4. Preside at meetings.
- B. Representatives of contractors, subcontractors and suppliers attending the meetings shall be qualified and authorized to act on behalf of the entity each represents.
- C. Architect may attend meetings to ascertain that Work is expedited consistent with Contract Documents and the construction schedules.

1.02 PRE-CONSTRUCTION MEETING

- A. Schedule within 15 days after date of Notice to Proceed.
- B. Location: A central site, convenient for all parties, designated by Contractor.
- C. Attendance:
 - 1. Owner's representative
 - 2. Architect and his professional consultants
 - 3. Resident Project representative
 - 4. Contractor's superintendent
 - 5. Major subcontractors
 - 6. Major suppliers
 - 7. Others as appropriate
- D. Suggested Agenda:
 - 1. Distribution and discussion of:
 - a. List of major subcontractors and suppliers
 - b. Projected construction schedules
 - 2. Critical work sequencing.

3. Major equipment deliveries and priorities.
4. Project coordination: Designation of responsible personnel.
5. Procedures and processing of:
 - a. Field decisions
 - b. Proposal Requests/Supplemental Instructions
 - c. Submittals
 - 1) Mechanical Electrical Coordination drawings
 - d. 21 day time limit on claims
 - e. Change orders
 - f. Applications for payment
6. Adequacy of distribution of Contract Documents.
7. Procedures for maintaining Record Documents.
8. Use of premises:
 - a. Office, work and storage areas
 - b. Owner's requirements
9. Construction facilities, controls and construction aids.
 - b. Construction Dust Control.
10. Temporary utilities.
11. Safety and first-aid procedures
12. Security procedures
13. Housekeeping procedures

1.03 PROGRESS MEETINGS

- A. Schedule regular periodic meetings, as required.
- B. Hold called meetings as required by progress of the work.
- C. Location of the meetings: The project field office of the Contractor.

D. Attendance:

1. Architect and his professional consultants may attend as needed.
2. Subcontractors as appropriate to the agenda.
3. Suppliers as appropriate to the agenda.
4. Others

E. Suggested Agenda:

1. Review, approval of minutes of previous meeting.
2. Review of work progress since previous meeting.
3. Field observations, problems, conflicts.
4. Problems which impede Construction Schedule.
5. Review of off-site fabrication, delivery schedules.
6. Corrective measures and procedures to regain projected schedule.
7. Revisions to Construction Schedule.
8. Plan progress, schedule, during succeeding work period.
9. Coordination of schedules.
10. Review submittal schedules; expedite as required.
11. Maintenance of quality standards.
12. Review proposed changes for:
 - a. Effect on Construction Schedule and on completion date.
 - b. Effect on other contracts of the Project.
13. Other business

END OF SECTION 01 31 19

SECTION 01 32 00

CONSTRUCTION SCHEDULING

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's Construction (CPM) Schedule.
 - 2. Shop Drawing Submittals Schedule
 - 3. CPM Reports

1.03 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
 - 2. Predecessor activity is an activity that must be completed before a given activity can be started.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is for the exclusive use or benefit of the Contractor to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- F. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- G. Major Area: A story of construction, a separate building, or a similar significant construction element.
- H. Milestone: A key or critical point in time for reference or measurement.
- I. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

1.04 SUBMITTALS

- A. Submittals Schedule: Submit six copies of schedule. Arrange the following information in a tabular format:
 - 1. Scheduled date for first submittal.
 - 2. Specification Section number and title.
 - 3. Submittal category (action or informational).
 - 4. Name of subcontractor.
 - 5. Description of the Work covered.
 - 6. Scheduled date for Architect's final release or approval. (Assume 15 working day turnaround.)
 - 7. Identify submittals that effect critical path.
- B. Contractor's Construction (CPM) Schedule: Submit two printed copies of initial schedule large enough to show entire schedule for entire construction period.
- C. CPM Reports: Concurrent with CPM schedule, submit three printed copies of the following computer-generated reports. Format for each activity in reports shall contain activity number, activity description, original duration, early start date, early finish date, late start date, late finish date, and total float.
 - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.

1.05 QUALITY ASSURANCE

- A. Prescheduling Conference: Conduct conference at Project site to review methods and procedures related to the Contractor's Construction (CPM) Schedule, including, but not limited to, the following:
 - 1. Discuss constraints, including phasing, work stages, area separations, interim milestones and partial Owner occupancy.
 - 2. Review delivery dates for Owner-furnished products.
 - 3. Review schedule for work of Owner's separate contracts.
 - 4. Review time required for review of submittals and resubmittals.
 - 5. Review requirements for tests and inspections by independent testing and inspecting agencies.
 - 6. Review time required for completion and startup procedures.
 - 7. Review and finalize list of construction activities to be included in schedule.
 - 8. Review submittal requirements and procedures.
 - 9. Review procedures for updating schedule.

1.06 COORDINATION

- A. Coordinate requirements in this Article with "Submittals Schedule" Article in Part 2. If a submittal review sequence policy governs, revise this Article to comply with requirements. See Evaluations for discussion on submittal review sequence policies.

PART 2: PRODUCTS

2.01 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates. Identify items that affect critical path.

2.02 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. General: Prepare network diagrams using CPM (critical path method) format.
- B. Preliminary Network Diagram: Submit diagram within 14 days from the Notice to Proceed. Outline significant construction activities for the first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.
- C. CPM Schedule: Prepare Contractor's Construction Schedule using a CPM network analysis diagram.
 - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted prior to first pay request.
 - 2. Establish procedures for monitoring monthly and updating CPM schedule if work is not on schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
 - 3. Use "one workday" as the unit of time. Activities should not be shorter than 2 work days or longer than 10 work days for projects with a construction period over 6 months and/or longer than 5 work days for projects with a construction period under 6 months.
- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths.
 - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Preparation and processing of submittals.
 - b. Purchase of materials.
 - c. Delivery.
 - d. Fabrication.
 - e. Installation.
 - 2. Processing: Process data to produce output data or a computer-drawn, logic network diagram. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.

PART 3: EXECUTION

3.01 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each payment request submittal.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
- B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01 32 00

SECTION 01 33 00

SUBMITTALS

PART 1: GENERAL

1.01 DESCRIPTION

- A. This Section defines procedures for the following submittals required by the Contract Documents.
- B. Provide submittals as noted in each Section.
- C. Allow for two weeks review of submittals to avoid delay of Work.
- D. Include with submittal preparation, field verifications of measurements, field construction criteria, verification of catalog numbers and similar data, and coordination of Work requirements and Contract Documents.
- E. Submit all color samples within 45 days of contract award for Architect's use in color selections. The Architect will not start the color schedule until all samples are received.

PART 2: REQUIRED SUBMITTALS

2.01 SHOP DRAWINGS AND SAMPLES

- A. Submit shop drawings in accordance with Article 3 of the General Conditions and the following.
- B. Prepare clearly identified shop drawings or schedules to this specific project, containing only data applicable. Include with the shop drawings or schedules a letter of transmittal listing and dating the submitted drawings in sets.
- C. Contractor to review all submittals prior to submittal to Architect, and indicate such review with a stamp and signature. Review submittals for conformance to Drawings, Specifications, coordination with other trades and adjacent construction and verification of field dimensions. Failure of Contractor to adequately review submittals shall be cause for rejection.
- D. Prepare and furnish to Architect for review, all shop drawings and manufacturers catalog sheets showing illustrated cuts of items to be furnished, scale details, sizes, dimensions, performance characteristics, capacities, wiring diagrams, weights and arrangements.
 - 1. The Contractor will provide submittals in the appropriate quantities for:
 - a. Distribution to sub-contractors.
 - b. Jobsite office.
 - c. Owner's maintenance manuals.
 - d. Four copies to be kept by Architects and Architect's consultants.
 - 2. Provide each shop drawing with a clear space of approximately twenty square inches for stamps on the right hand side.
- E. The Architect will take one of the following actions on submittals:
 - 1. "Reviewed": Contractor shall proceed with ordering and/or fabrication.
 - 2. "Review Comments": Contractor shall proceed with ordering and/or fabrication after taking into account noted comments.

3. "Rejected": Contractor shall provide a submittal that meets the intent of the specifications.
 4. "Revise and Resubmit": Contractor shall modify submittal to address comments and resubmit.
- F. If equipment other than that used in the design of this project is proposed to be used, the Contractor and/or supplier shall verify electrical differences, dimension variations and weight increases. The Contractor shall be responsible for any extra costs incurred as a result of equipment substitutions.
 - G. Information submittals and submittals that are not required shall be for Architects' and Engineers' use and be available for the design team's review at the jobsite. Quantity of submittals will be the same for Architect as noted under shop drawings. These submittals will not be reviewed, stamped or returned to the Contractor.
 - H. Unless otherwise specified, submit to the Architect's office samples of size, and nature representing typical qualities. Where required, submit a sufficient number of samples to demonstrate the complete range of variations of the material or quality. Written acceptance of the Architect is required prior to ordering any item for which samples are required.
 - I. Submit samples to Architect's office, securely packaged, with the name of the Project clearly indicated on the package exterior. Each physical sample shall have a label or tag, firmly attached to the sample, bearing the following information: (a) Name of Project, (b) Name of Supplier, (c) Name of Contractor, and (d) Product information such as manufacturer's designation, finish, type, class, grade, etc. as is appropriate. The Architect will retain one copy of each sample.

2.02 LIST OF MATERIALS

- A. Within 7 days after the award of the Contract (notice to proceed or letter of intent), submit 4 copies of a complete list of all material, products, and equipment proposed to be used in construction to the Architect for acceptance. Do not order materials until the proposed listed materials, products and equipment to be used in construction are accepted by the Architect.
- B. Where two or more makes or kinds of items are named in the specifications (or additional names are called for in addenda), the Contractor shall state which particular make or kind of each item he proposes to provide. If the Contractor fails to state a preference, the Owner shall have the right to select any of the makes or kinds named without change in price.
- C. This list shall be arranged generally in order of specification sections. The items listed shall fully conform to project requirements and specifications. All materials are subject to the Architect's acceptance. After acceptance, changes or substitutions will not be permitted.
- D. Clearly identify or list the material, product or equipment by manufacturer and brand by listing the names for all items, including those where only one material or product is specified. Each and every material, product and equipment shall be specifically named, not listed "as specified".

2.03 LIST OF SUBCONTRACTORS

- A. Refer to the General Conditions.
- B. Propose use of subcontractors or sub-subcontractors who are established, reputable firms of recognized standing with a record of successful and satisfactory past performance. Include the following information: specification section, item of work, subcontractor or supplier, material/manufacturer (as specified will not be allowed), project manager, phone and facsimile numbers. List major sub-subcontractors for mechanical and electrical work. Use only those subcontractors (and sub-sub-contractors, when appropriate) who are acceptable to the Architect and Owner on the Work.

2.04 SCHEDULE OF VALUES

A. Requirements

1. Submit separate Schedule of Values for each building or phase to Architect ten (10) days prior to first Application For Payment (AIA Form G702, G702a).
2. Use Schedule of Values only as basis for Contractor's Application For Payment.

B. Form of Submittal

1. Base format on Sections listed in Section 00 01 10 Table of Contents, as well as, the Mechanical and Electrical Table of Contents. Break down labor and material separately.
2. Round off amounts to nearest ten dollars.

2.05 PROGRESS SCHEDULE

- A. Refer to the General Conditions for submittal requirements.

2.06 SUBMITTAL LIST

- A. The following submittal list is a guide for submittals required for specification divisions 2-14 on the project. Inconsistencies or omissions from the list does not relieve the contractor from required submittals delineated in each specification section.

Section	Pre-Installation Conference	Product Data, Install Instruction, Wiring Diagrams	Shop Drawing	Samples	Mock-Up Panel	Design Data, Mix Design	Reports/Sched. Calculations	Qualification/ Certification	Source Quality Control Tests/Reports	Reference Specs	Warranty	Maint. & Operation Manual
06 10 53		X						X				
07 65 00		X		X								
07 92 00		X		X								
08 16 00		X	X	X								
08 40 00			X	X				X	X		X	X
08 71 00		X	X	X					X			
08 80 00		X		X							X	X
08 91 00			X	X								
09 91 00		X		X	X		X					X

END OF SECTION 01 33 00

SECTION 01 45 16

QUALITY CONTROL

PART 1: GENERAL

1.01 SELECTION AND PAYMENT

- A. The Contractor shall select, hire and pay for the services of an independent testing laboratory(s) acceptable to the Owner and Architect to perform specified Source Quality Control and other tests and inspections called for in the Specifications.
- B. The Owner will select, hire, pay for services of an independent testing laboratory, to perform specified Field Quality Control and other inspections, test of materials and construction called for in the Specifications.
- C. The Owner will select, hire and pay for services of a special inspector to perform Special Inspections and Testing defined in Specification Section 01 45 33.

1.02 RESPONSIBILITY OF CONTRACTOR

- A. Be responsible for furnishing materials and construction in full conformance with Plans and Specifications.
- B. Pay for all tests, conducted by the testing laboratory that fail and also pay for all scheduled tests for which the pours are cancelled and a test field crew is on site before that particular pour is cancelled.

1.03 COOPERATION OF CONTRACTOR

- A. Contractor: Cooperate with the Laboratory, and:
 - 1. Make available, without cost, samples of all materials to be tested in accordance with applicable standard specifications.
 - 2. Furnish such nominal labor and working space as is necessary to obtain samples at the Project.
 - 3. Advise Laboratory of the identity of material sources and instruct the suppliers to allow test or inspections by the Laboratory.
 - 4. Notify Laboratory sufficiently in advance of operations to allow completion of initial tests or inspections by the Laboratory.

1.04 REJECTION OF MATERIALS/INSTALLATION

- A. Laboratory: Notify the Owner, Architect Engineer and Contractor or his authorized representative of any materials or installation which are not in full conformance with the specifications.

1.05 FILING OF REPORTS

- A. Laboratory: File a copy of the inspection report with the Architect, appropriate Architect's Consultant, Owner and Building Official.

PART 2: PRODUCTS – Not Applicable.

PART 3: EXECUTION

3.01 GENERAL SCOPE OF TESTING, INSPECTION

- A. Require laboratory to conduct tests and inspections as directed by the Owner, Architect or Engineer.
- B. Refer to individual specification sections for test requirements.

3.02 QUALIFICATION TESTING

- A. In addition to tests specified, if a product, material, or method of assembly that is of unknown or questionable quality to Architect, the Architect may require and order suitable tests to establish a basis for acceptance or rejection. Pay for these tests. "Standard" test reports or reports on "similar" material will not be accepted.

3.03 MISCELLANEOUS (REGULATORY) INSPECTIONS

- A. Should specifications, Architect's instructions, laws, ordinances or any public authority require any work to be inspected or approved, Contractor shall give timely notice of its readiness for inspection and a reasonable date fixed for such inspection. If any work should be covered up without approval or consent of approving agency, or Architect, it must be uncovered for examination at Contractor's expense.

END OF SECTION 01 45 16

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.
- B. Support facilities include, but are not limited to, the following:
 - 1. Housekeeping and waste disposal facilities.
 - 2. Field communication.
 - 3. Storage and fabrication sheds.
 - 4. Lifts and hoists.
 - 5. Construction aids and miscellaneous services and facilities.
- C. Security and protection facilities include, but are not limited to, the following:
 - 1. Site enclosure fence.
 - 2. Security enclosure and lockup.
 - 3. Barricades, warning signs, and lights.
 - 4. Temporary enclosures.
 - 5. Temporary partitions.
 - 6. Fire protection.
- D. Related Sections include the following:
 - 1. Division 1 Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
 - 2. Division 1 Section "Execution Requirements" for progress cleaning requirements.
 - 3. Division 1 Section "Construction Dust Control" for partitions and procedures for control of construction dust.
 - 4. Divisions 3 through 49 for temporary heat, ventilation, and humidity requirements for products in those Sections.

1.03 DEFINITIONS

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

1.04 USE CHARGES

- A. General: Cost or use charges for temporary facilities are not chargeable to Owner or Architect and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:
 - 1. Owner's construction forces.
 - 2. Occupants of Project.
 - 3. Architect.
 - 4. Testing agencies.
 - 5. Personnel of authorities having jurisdiction.
- B. Water Service: Use water from Owner's existing water system without metering and without payment of use charges.
 - 1. Pay for pumps, pipe, hoses, and backflow preventors as required to distribute water.
- C. Electric Power Service: Use electric power from Owner's existing system without metering and without payment of use charges.

PART 2: PRODUCTS

2.01 MATERIALS

- A. General: Provide new materials or undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.
- B. Portable Chain-Link Fencing: Minimum 2-inch 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch OD line posts and 2-7/8-inch OD corner and pull posts, with 1-5/8-inch OD top and bottom rails. Provide **concrete** or **galvanized steel** bases for supporting posts.
- C. Lumber and Plywood: Comply with requirements in Division 6 Section "Carpentry."
- D. Gypsum Board: Minimum 1/2 inch thick by 48 inches wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36.
- E. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively.
- F. Paint: Comply with requirements in Division 9 Section "Painting."
- G. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- H. Water: Potable.
- I. Wood Walkways: 3/4" Plywood, framed with 2x__ joists (size as required to support span), with wood rails to contain occupants.
- J. Poly Film Guard: 3 mil. self adhering clear poly film utilizing tack water-based adhesive.

2.02 EQUIPMENT

- A. General: Provide equipment suitable for use intended.
- B. Field Offices: Prefabricated with lockable entrances, insulated, weather-tight; heated and air conditioned. Provide stairs with handrails as required for accessibility.

- C. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
 - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
- D. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- E. Drinking-Water Fixtures: Containerized, tap-dispenser, bottled-water drinking-water units, including paper cup supply.

PART 3: EXECUTION

3.01 INSTALLATION, GENERAL

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

3.02 TEMPORARY UTILITY INSTALLATION

- A. General: Engage appropriate local utility company to install temporary service or connect to existing service. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
 - 2. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide trucked-in services.
 - 3. Obtain easements to bring temporary utilities to Project site where Owner's easements cannot be used for that purpose.
- B. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
 - 1. Provide rubber hoses as necessary to serve Project site.
 - 2. Where installations below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize water damage. Drain accumulated water promptly from pans.

3. Provide pumps if required due to low static pressure on-site. Equip pumps with surge and storage tanks and automatic controls to supply water uniformly at reasonable pressures.
 4. Provide backflow prevention devices to protect Owner's water system.
- B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
 2. Provide safety showers, eyewash fountains, and similar facilities for convenience, safety, and sanitation of personnel as required by government jurisdictions.
 3. Toilets: Use of Owner's existing toilet facilities will not be permitted.
- C. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed.
1. Maintain a minimum temperature of 50 deg F (10 deg C) in permanently enclosed portions of building for normal construction activities, and 65 deg F (18.3 deg C) for finishing activities and areas where finished Work has been installed.
- D. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- F. Power is available on-site.
1. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations and to maintain schedule.
 2. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and to meet government regulations.
 - a. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- E. Telephone Service: Provide telephone service throughout construction period for use by job superintendent.
1. Provide a portable cellular telephone for superintendent's use in making and receiving telephone calls when away from field office.
 2. Provide voice-mail service on superintendent's cellular telephone.

3.03 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
1. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access.

2. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with NFPA 241.
 3. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Project Identification and Temporary Signs: Prepare Project identification and other signs in sizes indicated. Install signs where indicated to inform public and persons seeking entrance to Project. Do not permit installation of unauthorized signs.
1. Prepare temporary signs to provide directional information to construction personnel and visitors.
 2. Construct signs of exterior-type Grade B-B high-density concrete form overlay plywood in sizes and thicknesses indicated. Support on posts or framing of preservative-treated wood or steel.
- C. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with Division 1 Section for progress cleaning requirements.
1. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.
 2. Develop a waste management plan for Work performed on Project. Indicate types of waste materials Project will produce and estimate quantities of each type. Provide detailed information for on-site waste storage and separation of recyclable materials. Provide information on destination of each type of waste material and means to be used to dispose of all waste materials.
- D. Housekeeping
1. Do not allow debris to accumulate on-site or within the building work areas. The contractor shall implement and provide the following cleaning services:
 - a. Debris shall be removed from the construction site and police exterior project site area on a weekly basis at a minimum to clean-up any wind-blown or excess construction materials or debris and dispose of in construction dumpsters to maintain a clean project site.
 - b. Debris shall be removed from interior of the buildings on a daily basis and disposed of in construction dumpsters.
 - c. Lower waste materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
 - d. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
 - e. Once floor slabs are in place, walk-off mats shall be provided at all exterior entrances that are utilized by the workers. Mats shall be cleaned on a daily basis and change out mats on a monthly basis.
 - f. Areas without final floor finish in place shall be cleaned of debris and swept on a daily basis.
 - g. Areas that workers have access to with final floor finish in place shall be vacuumed on a daily basis. Carpeted major circulation paths shall be covered with poly film guard. Replace poly film guard when it develops holes or tears as they occur. Poly film guard to be replaced if left in place over 45 days. Horizontal and vertical surfaces shall be wiped down as construction dust has accumulated.
 - h. Where Contractor has periodic access to ancillary spaces occupied by Owner, thoroughly clean after each use, so as to not disrupt Owner's ongoing operations.

- i. Failure to maintain a clean construction area may result in the Owner cleaning the site and back-charging the Contractor.
 - j. Remove waste materials, rubbish and debris from the site and legally dispose of at public or private dumping areas off the Owner's property.
- E. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility services. Sheds may be open shelters or fully enclosed spaces within building or elsewhere on-site.
- F. Lifts and Hoists: Provide facilities for hoisting materials and personnel. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.04 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.
- B. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
- C. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.
 - 1. For safety barriers, sidewalk bridges, and similar uses, provide minimum 3/4-inch thick exterior plywood and appropriate 2x___ framing for support.
- D. Food Consumption: Limit food and soft drink consumption to within the Contractor's trailer or out of the building.
- E. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weather-tight enclosure for building exterior.
 - 1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
- F. Temporary Dust Control Partitions: Refer to Construction Dust Control Section 01 56 00.

3.05 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
 - 2. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

- C. Temporary Facility Changeover: Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
 - 3. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 1 Section "Closeout Procedures."

END OF SECTION 01 50 00

SECTION 01 56 00

CONSTRUCTION DUST CONTROL

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. Section Includes:
 - 1. Airborne construction dust/containment control in:
 - a. Buildings occupied during remodeling.
 - b. Existing buildings temporarily unoccupied (i.e. summer breaks for schools)
 - c. Finished spaces that are unoccupied and construction dust/airborne containments are still being generated (i.e. punchlist completion).
- B. Related Sections:
 - 1. Section 01 73 29-Cutting, Drilling and Patching: Removal of debris.
 - 2. Section 01 33 00-Submittals: Work and procedures for containment of construction dust/airborne contaminants.
 - 3. Section 01 50 00-Temporary Facilities: Temporary barriers/chutes; cleaning.
 - 4. Section 02 41 19-Selective Demolition

1.03 POLICY

- A. Airborne contaminants control is critical in all areas noted in Paragraph 1.02A. Contractor shall limit dissemination of airborne contaminants produced by construction-related activities, including dust, chalk, powders, aerosols, fumes, fibers and other similar materials, in order to provide protection of persons and equipment.
 - 1. Construction activities causing disturbance of existing dust, or creating new dust, or other airborne contaminants, must be conducted in tight enclosures cutting off any flow of particles into occupied areas.
 - 2. Ceilings, walls in Project area must be secure at all times.

1.04 SUBMITTALS

- A. Progress Schedules: Submit work areas and procedure schedules for containment of construction dust/airborne contaminants.
- B. Work Plan: Drawings and details of extent of enclosures, construction of necessary temporary barriers and exhaust fans, and description of procedures to be used to achieve and maintain control of construction-related airborne contaminants.

1.05 GENERAL ACCESS PROCEDURES

- A. Contractor shall notify Architect each time that work requiring access to occupied areas within two weeks of when work is about to begin.

- B. Dust Control Preconstruction Meeting: Before any construction on site begins, Contractor and workers are required to attend a mandatory dust control preconstruction orientation session held by Owner's Representative/Architect for training and instruction on precautions to be taken.
 - 1. Conditions in construction area may be presumed to be in a condition similar to other existing surfaces or a survey of work area to record pre-existing damage may occur at this time.
- C. Notification: Contractor shall notify Architect a minimum of 48 hours prior to starting construction activity which might be expected to produce excessive construction dust and airborne contaminants in occupied areas so that additional precautions may be taken.

1.06 TESTING

- A. The Owner may provide the following tests and observations:
 - 1. Air Samples: Baseline particle counts and conduct periodic air sampling of Project Areas during construction to monitor effectiveness of containment procedures.
 - 2. Air Pressure: Using visual indicators, the maintenance of negative air pressure in Containment Area relative to Project Areas will be verified on a daily basis.

1.07 DEFINITIONS

- A. Containment producing activities include, but are not limited to:
 - 1. Demolition and removal of walls, floors, ceilings, and other finish materials.
 - 2. Demolition of plumbing, mechanical and electrical systems and equipment.
 - 3. Finish operations such as sawcutting, shotblasting/grinding, sanding, painting, and application of special surface coatings.
- B. Containment Areas: As determined by Architect and Owner's Representative and shown within entire construction limits of project area. Includes area of construction, adjacent staging and storage areas, and passage areas for workers, supplies, and waste; includes ceiling spaces above and adjacent to construction, if shown.
- C. Project Areas: As determined by Architect and Owner's Representative and shown within entire construction limits of project area. Includes occupied areas adjacent to Project Area, either occupied or used for passage, as well as areas connected to construction area by mechanical system air intake, exhaust and ductwork.

PART 2: PRODUCTS

2.01 MATERIALS

- A. Carpet or Mats: Provide carpets or mats at containment entrances, vacuumed or changed as often as necessary (minimum daily) to prevent accumulation of dust. All vacuuming outside areas not under negative pressure shall be with a certified HEPA-filtered vacuum.
- B. Dust Caps: Block off all existing ventilation ducts within the construction area. Method of capping ducts shall be dust tight, withstand airflow and potential damage from construction activities.
- C. Portable Enclosures: Whenever work is done outside existing barricaded work areas, provide 4 mil portable polyethylene enclosure capable of sealing off opening fitted tight to ceiling, or provide prefabricated unit.
- D. Polyethylene: Polyethylene shall be fire retardant type listed by Fire Underwriter's Laboratories, Griffolyn #T55R with Griffolyn fire retardant tape, or equal.

- E. Exhaust fans: Maintain continuous uninterrupted operation.

PART 3: EXECUTION

3.01 INSPECTION

- A. Before any demolition or construction begins, a complete field review of all Project Areas (airborne contaminant control areas) and policies will be conducted and work plan revised if required. Initial work plan shall be presented at dust control preconstruction meeting.

3.02 CONTAINMENT, ENCLOSURES AND BARRIERS

- A. Air Quality Contaminant Control: Fasten windows shut, ventilate barricaded construction areas by use of fans to the outside of building.
 - 1. Maintain a minimum negative airflow of 100 +/- 10 FPM with door fully open at barricade entrance openings and during window replacement by use of fans vented to outside of building.
 - 2. Secure operable exterior windows and doors/windows not required for construction access as required to maintain negative airflow.
 - 3. Provide additional local exhaust during welding.
- B. Contractor shall install dustproof enclosures for work as submitted on work plan and when required to protect areas occupied by the Owner from dust, debris and damage.
 - 1. Construction must be conducted in tight enclosures cutting off any flow of dust particles into occupied areas.
 - 2. The Contractor shall provide additional dustproof enclosures as requested by the Owner when enclosure locations are not adequately containing the dust.
 - 3. Provide all barricades, warning signs and warning lights to protect the public, the existing building, storage areas and materials or equipment.
- C. Enclosure Barricades: Full height, noncombustible construction, with minimum ½ inch gypsum board both sides with 3-1/2 inch R-11 insulation batts to reduce noise. Use 3-inch wide masking tape to tightly seal top, bottom, and all seams to prevent spread of dust to occupied areas, including above ceiling.
 - 1. Barricade Doors: 3'-0" minimum width (pair of 3'-0" wide doors as required by plans), solid core wood with metal frame and hardware, including closer, tightly weather-stripped to prevent flow of dust. Locate as directed and swing out of construction area (unless directed otherwise by fire marshal). Keep barriers locked outside of working hours. Provide signage at each door "Keep Door Closed." Three keys for emergency access shall be furnished to the Owner.
 - 2. Seal all ductwork, piping, conduit, structure and miscellaneous penetrations in enclosure barricades.
 - 3. Materials for barricade shall be precut in unoccupied areas.
- D. Enclosure outside of work area (including spaces above ceilings): Whenever work is necessary outside of the construction barricades the space where work is being done, including ladders, shall be contained within full height enclosure. Contractor may use prefabricated unit.
 - 1. All work performed outside the construction barricade shown on drawings including all work in corridors and lobbies shall be performed outside of normal working hours and shall be scheduled in advance with Owner except where specified otherwise.

2. At no time shall any construction equipment or material be stored outside the construction barricade.

3.03 PROCEDURES

- A. General: Contractor shall provide and maintain all barriers, filters, ventilation, walk-off mats and cleaning and removal procedures as detailed in work plan.
 1. Traffic between barricaded areas and open areas shall be kept to a minimum. Instruct workers to refrain from tracking dust into adjacent occupied areas or opening windows or doors allowing construction dust/airborne contaminants into adjacent occupied or finished areas. Any dust tracked outside of construction area shall be cleaned up immediately. Contractor shall have the necessary manpower and equipment (HEPA vacuum cleaners, dust and wet mops, brooms, buckets and clean wiping rags) to keep adjacent occupied areas clean at all times. Keep door to such areas closed at all times. Transport materials and refuse into an area from an external site without violating occupied areas by transporting in covered containers.
 2. Provide negative pressure in construction area by use of fans to the outside of the building. Block supply and return ventilation as to not recirculate air from construction area to air handlers supplying occupied areas. Rebalance air handling equipment to maintain correct airflow to occupied areas.
 - a. Provide adequate forced ventilation of enclosed areas to cure installed materials, to prevent excessive humidity, and to prevent hazardous accumulations of dust, fumes, vapors, or gases in the building.
 - b. Direct exhaust from equipment away from building air intakes and operable windows; assure that filters on building air intakes are operational and protected from excessive amounts of airborne contaminants. Cover intakes of air handling equipment not in operation in proximity to exhaust locations.
- B. Sealing of Openings: Use tape or other impenetrable sealant to seal barrier wall seams, cracks around window and door frames, exhaust system ductwork, pipes, floor penetrations, joints and ducts. Seal or filter all open return and exhaust ductwork.
- C. Dust Control: The Contractor shall take appropriate steps throughout the term of the Project to prevent airborne dust due to work under this contract. Water shall be applied wherever practical to settle and hold dust to a minimum, particularly during demolition and moving of materials. No chemical palliatives shall be used without permission of the Owner's Representative.
 1. Spray surfaces with water mist during dust-producing interior demolition activities. Hard surface floors in work area, adjacent hallways and passage areas require vacuuming with HEPA-filtered vacuum cleaners and frequent wet-mopping during demolition and construction; protect adjacent carpeted areas with plastic and plywood and vacuum with HEPA-filtered vacuum cleaners.
 2. Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent airborne dust from dispersing into atmosphere.
- D. Whenever access panels are opened in occupied areas, for work above ceilings, provide portable enclosure ladder and sealing off opening, fitted tight to ceiling.
- E. Provide thorough cleaning of existing surfaces which become exposed to dust, before start of Owner's occupancy.

3.04 FINAL CLEANING

- A. Removal of construction barriers shall be done carefully, and when necessary, outside of normal work hours. Remove all tape residue from existing/new surfaces. HEPA vacuum and clean all surfaces free of dust after the removal prior to Owner's occupancy.
- B. Rebalance existing HVAC systems to restore modified systems back to the original design intent.

3.05 ENFORCEMENT

- A. Failure to maintain containment areas will result in issuance of written warning; if situation is not corrected within eight (8) hours of receipt of warning, Owner will have cause to stop the work as provided in Article 2.3 of A201 General Conditions of the Contract for Construction. All costs associated with Owner's written order to stop the Work and remobilization shall be borne by the Contractor.

END OF SECTION 01 56 00

SECTION 01 73 29
CUTTING AND PATCHING

PART 1: GENERAL

1.01 DESCRIPTION

- A. Execute cutting, fitting or patching of Work, required to:
 - 1. Make several parts fit properly.
 - 2. Uncover Work to provide for installation of ill-timed Work.
 - 3. Remove and replace defective Work.
 - 4. Remove and replace Work not conforming to requirements of Contract Documents.
 - 5. Install specified Work in existing construction.
 - 6. Provide finished surfaces (to match adjacent existing surfaces) to fill in voids caused by removal or replacement of materials.
- B. Pay for costs caused by ill-timed or defective Work, or Work not conforming to Contract Documents, including costs for additional services of Architect/Engineer.

PART 2: PRODUCTS

2.01 MATERIALS

- A. Replacement of Work Removed: Comply with specifications for type of Work to be done.
- B. Placement of Work to fill Voids caused by Removal: Comply with latest industry standards for type of Work to be done.

PART 3: EXECUTION

3.01 INSPECTION

- A. Inspect existing conditions of Work, including elements subject to movement or damage during:
 - 1. Cutting and patching.
- B. After uncovering Work, inspect conditions affecting installation of new products.

3.02 PREPARATION PRIOR TO CUTTING

- A. Provide shoring, bracing and support as required to maintain structural integrity of Project.
- B. Provide protection for other portions of Project.
- C. Provide protection from elements.

3.03 PERFORMANCE

- A. Neatly cut or demolish along straight, true, square lines.
- B. Execute cutting and demolition by methods which will prevent damage to other Work, and will provide proper surfaces to receive installation of repairs and new Work.
- C. Restore Work which has been cut or removed; install new products to provide complete Work in accord with requirements of Contract Documents.
- D. Refinish entire surfaces as necessary to provide an even finish.
 - 1. Continuous Surfaces: To nearest intersections.
 - 2. Assembly: Entire refinishing.

END OF SECTION 01 73 29

SECTION 01 74 00

FINAL CLEANING

PART 1: GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Cleaning required for specified work is specified in sections pertaining to that work.
- B. Cleaning during construction and prior to substantial completion – Section 01 50 00 Temporary Facilities and Controls.

PART 2: PRODUCTS

2.01 CLEANING MATERIALS

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3: EXECUTION

3.01 FINAL CLEANING

- A. Employ experienced workers or professional cleaners for final cleaning.
- B. At completion of construction and just prior to acceptance or occupancy, conduct a final inspection of exposed interior and exterior surfaces.
- C. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from interior and exterior surfaces.
- D. Repair, patch and touch up marred surfaces to match adjacent finishes.
- E. Broom clean paved surfaces; rake clean other surfaces of grounds.
- F. Maintain cleaning until the Building or portion thereof, is occupied by the Owner.

END OF SECTION 01 74 00

SECTION 01 77 00

PROJECT CLOSEOUT

1.01 GENERAL

- A. Comply with requirements stated in Conditions of the Contract and in Specifications for administrative procedures in closing out the Work.
- B. Related requirements in other parts of the Project Manual
 - 1. Fiscal provisions, legal submittals and additional administrative requirements: Conditions of the Contract.
- C. Related requirements specified in other sections
 - 1. Closeout Submittals Required: The respective sections of specifications.

1.02 SUBSTANTIAL COMPLETION

- A. Refer to the General Conditions of the Contract for Construction.
- B. When the Project is determined by the Architect to be sufficiently complete to permit utilization for the intended use, the Architect will issue a Certificate of Substantial Completion.
- C. To receive the Certificate of Substantial Completion, perform the following:
 - 1. Submit to the Architect a notice declaring that work is believed to be substantially complete.
 - 2. Submit a list of work items that remain to be completed or corrected and the date this work will be accomplished.
 - 3. Obtain Occupancy certificate when required from governing municipality.
- D. Architect will visit the project to evaluate the request for issuance of a Certificate of Substantial Completion.
 - 1. If the Architect concurs that the Project is substantially complete, the Architect will deliver a Certificate of Substantial Completion and a list of work items necessary for completion or correction prior to request for inspection for final completion.
 - 2. If the Architect determines that the work is not substantially complete, the Architect will deliver to the Contractor a written statement including reasons.
 - 3. Complete work on the items required by the Architect for achieving substantial completion and make additional written requests for issuance of a Certificate of Substantial Completion until the Architect determines that sufficient Work has been performed.

1.03 FINAL INSPECTION

- A. When the Work is considered complete, submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been completed and inspected by the Contractor for compliance with Contract Documents and is ready for final inspection.

- B. Architect will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should Architect consider that the Work is incomplete or defective:
 - 1. Architect will notify the Contractor in writing, listing the incomplete or defective work.
 - 2. Take immediate steps to remedy the stated deficiencies, and send a second written certification to Architect that the Work is complete.
 - 3. Architect will reinspect the Work.
- D. When the Architect finds that the Work is acceptable under the Contract Documents, he will request preparation of closeout submittals.

1.04 REINSPECTION FEES

- A. Should Architect perform reinspections due to failure of the Work to comply with the claims of status of completion made by the Contractor:
 - 1. Owner will compensate Architect for such additional services.
 - 2. Owner will deduct the amount of such compensation from the final payment.

1.05 CLOSEOUT SUBMITTALS TO ARCHITECT

- A. When the Architect has determined that the Construction Work is acceptable under the Contract Documents and the Contract fully performed, prepare and submit final Application for Payment to the Architect together with the following:
 - 1. A letter recommending acceptance of the Project and indicating all punch list items are complete.
 - 2. Contractor's Affidavit of Payment of Debts and Claims, AIA Document G706, with bonds for any exceptions.
 - 3. Consent of surety to final payment on Consent of Surety Company to Final Payment, AIA Document G707.
 - 4. Contractors Affidavit of Release of Liens, AIA Document G706A.
 - 5. Project Record Documents, if required.
 - 6. Warranties and Bonds.
- B. Submit one original and one copy for Items A1 through A6.

1.06 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to Architect.
- B. Statement shall reflect all adjustments to the Contract Sum:
 - 1. The original Contract Sum.
 - 2. Additions and deductions resulting from:
 - a. Previous Change Orders
 - b. Allowances

- c. Unit Prices
 - d. Deductions for uncorrected Work
 - e. Penalties and Bonuses
 - f. Deductions for liquidated damages
 - g. Deductions for reinspection payments and costs incurred by Architect or Architect's Consultants if project is not closed out within sixty (60) days of Substantial Completion.
 - h. Other adjustments
- 3. Total Contract Sum, as adjusted.
 - 4. Previous payments.
 - 5. Sum remaining due.
- C. Architect will prepare a final Change Order, reflecting approved adjustments to the Contract Sums which were not previously made by Change Orders.

1.07 FINAL APPLICATION FOR PAYMENT

- A. Submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

END OF SECTION 01 77 00

SECTION 01 78 23

OPERATING, MAINTENANCE AND WARRANTY DATA

1.01 GENERAL

- A. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under the Contract.
- B. Prepare operating, maintenance and warranty data as specified in this Section and as referenced in other pertinent section of Project Manual.
- C. Instruct Owner's personnel in the maintenance of products and in the operation of equipment and systems.
- D. Related requirements specified in other sections:
 - 1. Shop drawings, product data and samples: Section 01 33 00.
 - 2. Project Closeout: Section 01 77 00.
 - 3. Project Record Documents: Section 01 78 39.

1.02 QUALITY ASSURANCE

- A. Preparation of data shall be done by personnel with the following qualifications:
 - 1. Trained and experienced in maintenance and operation of the described products.
 - 2. Completely familiar with requirements of this Section.
 - 3. Skilled as a technical writer to the extent required to communicate essential data.
 - 4. Skilled as a draftsman competent to prepare required drawings.

1.03 FORM OF SUBMITTALS

- A. Prepare data in the form of an instructional manual for use by the Owner's personnel.
- B. Format shall conform to the following:
 - 1. Size: 8½" x 11".
 - 2. Paper: 20 pound minimum, white, for typed pages.
 - 3. Text: Manufacturer's printed data, or neatly typewritten.
 - 4. Drawings
 - a. Provide reinforced punched binder tab, bind in with text.
 - b. Fold larger drawings to the size of the text pages.

5. Provide fly-leaf for each separate product, or each piece of operating equipment.
 - a. Provide typed description of product, and major component parts of equipment.
 - b. Provide indexed tabs.
6. Cover: Identify each volume with typed or printed title "OPERATING, MAINTENANCE AND WARRANTY INSTRUCTIONS". List:
 - a. Title of Project
 - b. Identity of separate structure as applicable.
 - c. Identity of general subject matter covered in the manual.

C. Binders

1. Commercial quality three-ring binders with durable and cleanable plastic cover.
2. Maximum ring size: 2 inch.
3. When multiple binders are used, correlate the data into related consistent groupings.

1.04 CONTENT OF MANUAL

A. Arrange neatly typewritten table of contents for each volume, in the following systematic order.

1. Contractor, name of responsible principal, address and telephone number.
2. A list of each product required to be included, indexed to the content of volume.
3. List, with each product, the name, address and telephone number of:
 - a. Contractor or installer.
 - b. Maintenance contractor, as appropriate.
 - c. Identify the area of responsibility of each.
 - d. Local source of supply for parts and replacement.
 - e. Include warranty information as specified.
4. Identify each product by product name and other identifying symbols such as set in Contract Documents.

B. Product Data

1. Include only those sheets which are pertinent to the specific product.
2. Annotate each sheet to:
 - a. Clearly identify the specific product or part installed.

- C. Content, for moisture-protection and weather-exposed products:
 - 1. Manufacturer's data, giving full information on products.
 - a. Applicable standards
 - b. Chemical composition
 - c. Details of installation
 - 2. Instructions for inspection, maintenance and repair.
- D. Additional requirements for maintenance data: The respective section of the Project Manual.

1.05 SUBMITTAL SCHEDULE

- A. Submit one copy of completed data in final form within thirty days of substantial completion. Copy will be returned with comments.
- B. Submit two copies of approved data in final form ten (10) days after comments are received.

END OF SECTION 01 78 23

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

1.01 GENERAL

- A. Fully cooperate with the Architect to accomplish the following.
- B. These requirements supplement the requirements set forth in the General Conditions.
- C. Maintain at each site one record copy, as applicable, of:
 - 1. Drawings and Details with addenda marked in.
 - 2. Specifications with addenda marked in.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Architect/Engineer Supplemental Instructions, Proposal Requests or written instructions.
 - 6. Approved shop drawings, product data and samples.
 - 7. Field test records.

1.02 MAINTENANCE OF RECORD DOCUMENTS AND SAMPLES

- A. Store record documents and samples in Contractor's field office in files and racks. Provide locked cabinet or secure storage space for storage of samples.
- B. File documents and samples in accordance with the Construction Specifications Institute MASTERFORMAT.
- C. Maintain record documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- D. Make record documents and samples available at all times for inspection by Architect or Owner.

1.03 RECORDING

- A. Label each document "PROJECT RECORD" in neat large printed letters.
- B. Continuously record information and changes.
- C. Drawings: Legibly mark to record actual construction.
 - 1. Depths of various elements of foundation in relation to finish first floor datum.
 - 2. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
 - 4. Field changes of dimension and detail.

5. Changes made by Field Order or by Change Order.
 6. Details not on original contract drawings.
- D. Specifications and Addenda - Legibly mark each Section to record:
1. Manufacturer, trade name, catalog number, and Supplier of each Product and item of equipment actually installed.
 2. Changes made by Field Order or by Change Order.

1.04 SUBMITTAL

- A. Deliver Record Documents to the Owner at contract close-out.
- B. Accompany submittal with transmittal letter in duplicate, containing:
1. Date
 2. Project title
 3. Title and number of each Record Document

END OF SECTION 01 78 39

SECTION 01 79 00

DEMONSTRATION AND TRAINING

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
 - 3. Recording of training sessions.
- B. Related Sections:
 - 1. Division 1-14 – Individual sections with training requirements.
 - 2. Divisions 21-25 – Mechanical sections with training requirements.
 - 3. Divisions 26-28 – Electrical sections with training requirements.

1.03 SUBMITTALS

- A. Instruction Program: Submit two copies of outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. At completion of training, submit one complete training manual for Owner's use.
- B. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.
- E. Demonstration and Training Videotape: Submit one copy at end of each training module.

1.04 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Division 1 Section "Quality Requirements," experienced in operation and maintenance procedures and training.

1.05 COORDINATION

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

PART 2 – PRODUCTS

2.01 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project Record Documents.
 - e. Identification systems.
 - f. Warranties and bonds.
 - g. Maintenance service agreements and similar continuing commitments.
 - 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.

4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.
- B. Set up instructional equipment at instruction location.

3.02 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training through Architect with at least seven days' advance notice.
- D. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.
- E. Demonstration and Training Recording: Record each training module separately on digital, window's compatible DVD media.. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- F. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

3.03 REQUIRED DEMONSTRATION AND TRAINING

- A. The following is a list of demonstration and training requirements listed in individual specification sections. Inconsistencies or omissions from the list does not relieve the Contractor from providing required demonstration and training delineated in each specification section.

Specification Section	Item	Minimum Time*
08 16 00	FRP Flush Doors	As specified
08 71 00	Finish Hardware	As specified

END OF SECTION 01 79 00

SECTION 02 41 19
SELECTIVE DEMOLITION

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. This Section requires the selective removal of the following:
1. Portions of existing building indicated on drawings and as required, to be removed and disposed of off site, to accommodate new construction.
 2. Removal and protection of existing fixtures, materials, and equipment items indicated "salvage."
- B. Related work specified elsewhere:
1. Remodeling construction work and patching are included within the respective sections of specifications.
 2. Construction Dust Control: Section 01 56 00.
- C. Related work by others:
1. Removal of movable furnishings and equipment is by Owner.
 2. Removal of asbestos containing materials is by Owner.

1.03 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Schedule indicating proposed sequence of operations for selective demolition work to Owner's Representative/Construction Manager for review prior to start of work. Include coordination for shutoff, capping, and continuation of utility services as required, together with details for dust and noise control.
1. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.
 2. Coordinate with Owner's continuing occupation of portions of existing building and with Owner's partial occupancy of completed new construction areas.
- C. Photographs of existing conditions of structure surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to removal operations. File with Owner's Representative/Construction Manager prior to start of work.
- D. Product data and Material Safety Data Sheets for any hazardous, highly odoriferous, or high volatile materials to be used, along with procedure and safeguards to be followed during the use of each.

1.04 JOB CONDITIONS

- A. Occupancy: Owner will occupy portions of the building immediately adjacent to areas of selective demolition. Conduct selective demolition work in manner that will minimize need for disruption of Owner's normal operations. Provide minimum of 72 hours advance notice to Owner's Representative of demolition activities that will affect Owner's normal operations.
- B. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.
 - 1. Conditions existing at time of inspection for bidding purposes will be maintained by Owner insofar as practicable. However, minor variations within structure may occur by Owner's removal and salvage operations prior to start of selective demolition work.
- C. Partial Demolition and Removal: Items indicated to be removed but of salvageable value to Contractor may be removed from structure as work progresses. Transport salvaged items from site as they are removed.
 - 1. Storage or sale of removed items on site will not be permitted.
- D. Protection: Provide temporary barricades and other forms of protection to protect Owner's personnel, students and general public from injury due to selective demolition work.
 - 1. Coordinate protective measures with those to be performed or constructed for asbestos abatement work. Avoid duplication of work where practical.
 - 2. Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to occupied portions of building.
 - 3. Erect temporary covered passageways as required by authorities having jurisdiction.
 - 4. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished and adjacent facilities or work to remain.
 - 5. Protect from damage existing finish work that is to remain in place and which becomes exposed during demolition operations.
 - 6. Protect floors with suitable coverings when necessary.
 - 7. Construct temporary insulated dustproof partitions where required to separate areas where noisy, dirty or dusty operations are performed. Construct partitions out of metal stud, poly and gypsum board and provide dustproof doors and security locks.
 - 8. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces and installation of new construction to ensure that no water leakage or damage occurs to structure or interior areas of existing building.
- E. Damages: Promptly repair damages caused to adjacent facilities by demolition work.
- F. Traffic: Conduct selective demolition operations and debris removal to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
 - 1. Do not close, block, or otherwise obstruct streets, walks, or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- G. Flame Cutting: Do not use cutting torches for removal until work area is cleared of flammable materials. At concealed spaces, flame cutting will not be allowed. Maintain portable fire suppression devices during flame-cutting operations.

- H. Utility Services: Maintain existing utilities indicated to remain in service and protect them against damage during demolition operations.
1. Do not interrupt utilities serving occupied or used facilities or spaces, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner.
 2. Maintain fire protection services during selective demolition operations.
 3. Maintain HVAC functions in occupied spaces, in so far as possible. Provide temporary heating and ventilation as required to maintain acceptable working conditions. Do not interrupt functions to occupied spaces, except as shown on the demolition plans or when authorized in writing by the Owner.
- I. Environmental Controls: Use temporary enclosures, and other methods to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection.
1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution, or damage to finishes or occupied spaces.
- J. Do not use highly odoriferous, hazardous or highly volatile chemicals during demolition without the approval of the Owner. Provide appropriate safeguards during the use of such approved materials.
- K. Lead Containing Materials: The existing building may contain lead-containing materials, including lead paint. It is the Contractor's responsibility to meet all governmental regulations when dealing with and disposing of lead containing materials.

PART 2: PRODUCTS (Not Applicable)

PART 3: EXECUTION

3.01 PREPARATION

- A. General: Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of areas to be demolished and adjacent facilities to remain.
1. Cease operations and notify Architect immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.
 2. Cover and protect furniture, equipment, and fixtures from soilage or damage when demolition work is performed in areas where such items have not been removed.
 3. Erect and maintain dust-proof partitions and closures as required to prevent spread of dust or fumes to occupied portions of the building.
 - a. Where selective demolition occurs immediately adjacent to occupied portions of the building, construct dust-proof partitions of minimum 3-5/8" metal studs, 5/8-inch drywall (joints taped) on occupied side, 1/2-inch fire-retardant plywood on demolition side. Fill partition cavity with insulation. Provide lockable dustproof doors.
 - b. Provide similar weatherproof closures for exterior openings resulting from or immediately adjacent to demolition work.
 4. Locate, identify, stub off, and disconnect utility services that are not indicated to remain.

- a. Provide bypass connections as necessary to maintain continuity of service to occupied areas of building. Provide minimum of 72 hours advance notice to Owner if shutdown of service is necessary during changeover.
- 5. Asbestos containing materials shall be removed only by a licensed asbestos abatement contractor. In the event that asbestos containing materials are encountered during the demolition process, implement the following procedures:
 - a. If the materials is not disturbed, stop work in the immediate area and notify the School District/Construction Manager who will arrange for abatement of the material.
 - b. If the material has been disturbed by demolition operation, or is otherwise loose or damaged, evacuate the immediate area and restrict access to all personnel. Shut off or isolate HVAC to the area. Notify the School District/Construction Manager and do not re-enter space until abatement is complete and permission has been received.
 - c. Rearrange selective demolition schedule as necessary to continue overall job progress without undue delay.

3.02 DEMOLITION

- A. General: Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
 - 1. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain using power-driven masonry saw or hand tools.
 - 2. For interior slabs on grade, use removal methods that will not crack or structurally disturb adjacent slabs or partitions. Use power saw where possible.
 - 3. Completely fill below-grade areas and voids resulting from demolition work. Use compacted backfill as specified in Section 31 00 00.
 - 4. Provide for effective air and water pollution controls as required by local authorities having jurisdiction.
- B. If unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure both nature and extend of the conflict. Submit report to Architect in written, accurate detail. Pending receipt of directive from Architect, rearrange selective demolition schedule as necessary to continue overall job progress without undue delay.
- C. If carpet to be removed is glue applied over vinyl asbestos tile. Use power carpet stripper or other device known to remove carpet with minimal damage to or loosening of, underlying tile.
- D. Leave all surfaces and work ready and acceptable to the next trade. Use only materials and techniques that are acceptable to subsequent trades to remove materials from surfaces to remain.
 - 1. Remove adhesive and other materials where wall and floor coverings are removed.
 - 2. Patch or repair demolition in excess of that shown on drawings.

3.03 SALVAGED MATERIALS

- A. Salvaged Items: Where indicated on Drawings as "Salvage", carefully remove indicated items, clean and store.
 - 1. Furniture/building contents, not scheduled for reuse, remain property of Owner. Notify Architect if such items are encountered and obtain approval regarding method of removal and salvage for the Owner.

2. Store salvaged items to be reused off the ground in a clean, dry location, away from uncured concrete or masonry. Cover with waterproof material in a manner that permits air circulation within covering.
3. For items to be reused, inventory, label with previous location and new location.

3.04 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove from building site debris, rubbish, and other materials resulting from demolition operations. Transport and legally dispose of off site.
 1. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.
 2. Burning of removed materials is not permitted on project site.

3.05 CLEANUP AND REPAIR

- A. General: Upon completion of demolition work, remove tools, equipment, and demolished materials from site. Leave interior areas broom clean.
 1. Repair demolition performed in excess of that required. Return elements of construction and surfaces to remain to condition existing prior to start operations. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.
 2. Remove protection when no longer required by demolition and remodeling work.

END OF SECTION 02 41 19

SECTION 06 10 53

CARPENTRY

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. Section includes:
 - 1. Miscellaneous blocking, sleepers and nailers, shown on Drawings or required.
 - 2. Preservative-treated blocking/sill sealer for anchorage of windows, storefront and entrances.

1.03 QUALITY ASSURANCE

- A. Lumber Grades: Western Wood Products Association "Product Use Manual".
- B. Preservative Treated Lumber: American Wood Preservers Bureau, "LP-2 Pressure Treated with Water-Borne Preservatives".

1.04 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.
 - 1. Furnish certificates for preservative treated lumber.
 - 2. Submit roofing material manufacturer's current printed instructions for installation of nailers.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Immediately upon delivery to job site, place materials in area protected from weather.
- B. Store materials a minimum of 6 in. above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation or ventilation.
- C. Do not store seasoned material in wet or damp portions of building.
- D. While unloading, protect sheet materials from corners breaking and damaging surfaces.

1.06 COORDINATION

- A. Coordinate blocking for windows, storefront and entrances with Section 08 40 00.
- B. Obtain product data, sizes and anchorage requirements prior to installation of blocking.

PART 2: PRODUCTS

2.01 ROUGH HARDWARE

- A. Nails, spikes, screws, bolts and similar items of size and types to rigidly secure members in place or as otherwise indicated.
- B. Non-corrosive type fasteners for redwood and preservative treated wood such as stainless steel or double dipped galvanized.
- C. Sill Sealer: Closed-cell plastic foam, 1/4" thick, selected from manufacturers' standard widths to suit width of sill members indicated.

2.02 LUMBER

- A. Framing, blocking lumber: No. 2 or better, S4S, Douglas Fir-Larch, Hem-Fir or Southern Pine, moisture content not to exceed 19%.
 - 1. Provide preservative-treated lumber for work exposed to moisture or indirect contact with concrete slabs. Preservative-treated lumber is not required for roof blocking.
 - 2. Provide fire-retardant lumber for all interior framing and blocking.

2.03 PLYWOOD

- A. Meet APA C-D exterior, thickness as shown on Drawings.
- B. Provide preservative-treated plywood when exposed to moisture, and as shown on Drawings.
- C. Interior Finish Plywood: Paint grade birch.

PART 3: EXECUTION

3.01 ROUGH CARPENTRY

- A. Provide wood nailers of size, shape where indicated, required.
- B. Fasten securely to substrate with appropriate fasteners. Use expansion-type anchors at masonry or concrete, self-tapping screws at steel. Use corrosive resistant fasteners for roofing applications or where otherwise exposed to moisture.
- C. Install work that is component of the roofing system according to roofing material manufacturer's current printed instructions.
- D. Install blocking for windows, storefront and entrances according to approved Shop Drawings. Blocking shall be continuous the width or height of rough openings, unless otherwise shown on Drawings. Install sill sealer under windowsill blocking as detailed
- E. Install blocking for finish materials, such as windows and sheet metal fascias, with minimum number of joints, plumb, level, true and straight with no distortions. Discard materials which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned.

END OF SECTION 06 10 53

SECTION 07 65 00

FLASHING

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. Section includes product specification of the following:
 - 1. Flexible and metal flashing used in masonry, exterior finish materials and exterior openings.
- B. Installation of flashings installed in other sections:
 - 1. Aluminum Entrances, Storefronts and Curtainwalls – Section 08 40 00
 - 2. Louvers – Section 08 91 00.

1.03 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.
 - 1. Product data indicating proposed material conforms to specification.
 - 2. Submit samples of all specified materials for review.

PART 2: PRODUCTS

2.01 MATERIALS

- A. Products by WR Grace are specified unless noted otherwise. Equivalent products by Carlisle Coatings and Waterproofing, Miradri, Polyken, WR Meadows are acceptable.
- B. Flexible Flashing: Perm-A-Barrier Wall Flashing manufactured of 32 mils of self-adhesive rubberized asphalt integrally bonded to 8 mil of cross-laminated, high-density polyethylene film to provide a min. 40 mil thick membrane. Membrane shall be interleaved with disposable silicone-coated release paper until installed, conforming with the following:
 - 1. Water Vapor Transmission: ASTM E96, Method B: 2.9 ng/m²sPa (0.05 perms) max.
 - 2. Water Absorption: ASTM D570: max. 0.1% by weight
 - 3. Puncture Resistance: ASTM E154: 356 N (80 lbs.) min.
 - 4. Tear Resistance
 - a. Initiation ASTM D1004: min. 58 N (13.0 lbs.) M.D.
 - b. Propagation ASTM D1938: min. 40 N (9.0 lbs.) M.D.
 - 5. Lap Adhesion at -4°C (25°F): ASTM D1876: 880 N/m (5.0 lbs./in.) of width
 - 6. Low Temperature Flexibility ASTM D1970: Unaffected to -43°C (-45°F)
 - 7. Tensile Strength: ASTM D412, Die C Modified: min. 5.5 MPa (800 psi)
 - 8. Elongation, Ultimate Failure of Rubberized Asphalt: ASTM D412, Die C: min. 200%.

9. Wall Flashing Accessories:

a. Surface Conditioner:

- 1) Perm-A-Barrier Surface Conditioner: Water based latex liquid for substrate preparation conforming with the following:
 - (1.) Flash Point: No flash to boiling point
 - (2.) Solvent Type: Water
 - (3.) VOC Content: Not to exceed 125 g/L
 - (4.) Application Temperature: -4°C (25°F) and above
 - (5.) Freeze/Thaw Stability: 5 cycles min.
 - (6.) Freezing point (as packaged): -10°C (14°F)

b. Termination Mastic:

- 1) Bituthene® Mastic: Rubberized asphalt-based mastic with 20 g/L max. VOC Content.

c. Optional Primers:

- 1) Bituthene Primer WP-3000: Water-based latex primer with 110 g/L max. VOC Content.
- 2) Bituthene Primer B2: Rubber-based primer in solvent with 440 g/L max. VOC Content.

C. Miscellaneous Accessories

1. Metal Flashing: 24 ga. G-90 hot dipped galvanized steel, prefinished with Kynar 500 or Hylar 5000 fluorocarbon coating.
 - a. Color: See various technical sections for colors.
 - b. Provide 20 year warranty covering color fade, chalking and film integrity.
 - c. Provide factory applied protective film. Do not remove until after fabrication and installation is complete.
2. Rope Wicks: 1/4" cotton sash cord.
3. Flashing Termination Bar and Fasteners.
 - a. Termination bar: TB-100 termination bar with sealant ledge, .100" thick x 1" wide extruded aluminum with 1/4" x 3/8" slotted holes at 8" o.c. as manufactured by Tru-Fast Corp. (800-443-9602) or equal.
 - b. Fasteners to be #14 x 1 1/4" stainless steel Crete Flex SS4, hex head with silver stalgard finish as manufactured by ELCO Fastening Systems or equal.

PART 3: EXECUTION

3.01 INSTALLATION OF ACCESSORIES

- A. See various technical sections listed in paragraph 1.02.B for installation of flashings.

END OF SECTION 07 65 00

SECTION 07 92 00

SEALANTS AND CAULKING

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. Exterior colored sealants:
 - 1. Joints around aluminum curtainwall framing at FRP Doors.
 - 2. Miscellaneous joints where “sealant” or “caulk/caulking” is indicated on drawings.
- B. Related work specified in other sections:
 - 1. Caulking around windows, storefront and curtainwall – Division 8.
 - 2. Glazing – Section 08 80 00.

1.03 REFERENCES

- A. ASTM C 920 – Specification for Elastomeric Joint Sealants.
- B. ASTM C 1193 – Standard Guide for Use of Joint Sealants.

1.04 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.
- B. Product Data: Manufacturer’s data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods including joint design, surface preparation, and application instructions.
 - 4. Submit manufacturer’s test reports indicating test results of adhesion and/or compatibility testing of samples of substrates which either come in contact with or are in close proximity to sealants.
- C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer’s full range of available colors or samples of custom color matches for Architect’s acceptance.
- D. Samples of Warranty.
- E. Manufacturer’s approval of installer.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications

1. Company specializing in performing work of this section with minimum three years documented experience, minimum three successfully completed projects of similar scope and complexity, and approved by manufacturer.
 2. Designate one individual as project foreman who shall be on site at all times during installation.
- B. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
1. Prepare mock-ups for sealants and for each type of surface using same materials, tools, equipment, and procedures intended for actual surface preparation and application under actual use and environmental conditions.
 2. Before installing exterior sealants, field test their adhesion to Project joint substrates as follows:
 - a. Conduct field tests for each kind of joint substrate indicated.
 - b. Notify Architect seven days in advance of dates and times when test joints will be erected.
 - c. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
 - 1) Test per Field Quality Testing in Part 3 of this Specification.
 3. Observe for sealant and surface staining or discoloration.
 4. Retain acceptable mock-ups to establish intended standards by which sealants will be judged.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Accept materials on site in manufacturers unopened original packaging. Inspect for damage.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
1. Store materials in a clean, dry area indoors in accordance with manufacturer's instructions.
 2. Store sealants within temperature range in accordance with manufacturer's instructions.
 3. Keep containers sealed until ready for use.
 4. Do not use materials after manufacturer's use-before date.

1.087 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
1. Do not apply sealants to surfaces that are wet, damp, or contain frost.
 2. Do not apply sealants when air or surface temperature is below 40 degrees F.
 3. Use caution when applying sealants when air or surface temperature is above 120 degrees F.

1.08 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty for Exterior Sealants: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Ten years from date of Substantial Completion.

PART 2: PRODUCTS

2.01 EXTERIOR SEALANTS

- A. Silicone Sealant: Single Component, Nonsag, Neutral-Curing Silicone joint sealant conforming to ASTM C 920, Type S, Grade NS, Class 100/50. Maximum VOC: 98 g/L
 - 1. Manufacturers/product:
 - a. Dow Corning, 790.
 - b. GE/Momentive Performance Materials, SilPruf LM SCS 2700.
 - c. Pecora, 890 FTS
 - 2. Colors: Custom colors to match material or finish sealant occurs in.

2.02 INTERIOR SEALANTS

- A. Polyurethane Sealant: Multi-component, high-performance polyurethane sealant conforming to ASTM C 920, Type M, Grade NS, Class 25. Maximum VOC: 25 g/L.
 - 1. Manufacturers/product:
 - a. Pecora, Dynatrol II
 - b. SIKA, SIKAFLEX 2-C
 - c. Sonneborn, Sonolastic NP2
 - d. Tremco, Dymeric 240/240FC
 - 2. Colors: Custom colors to match material or finish sealant occurs in.

2.03 ACCESSORIES

- A. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- B. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- C. Joint Backing: Round foam rod compatible with sealant; oversized 25 to 50 percent larger than joint width; recommended by sealant manufacturer to suit application.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.
- E. Masking Tape: Non-staining, non-absorbent tape product compatible with joint sealants and adjacent joint surfaces.

PART 3: EXECUTION

3.01 EXAMINATION

- A. Inspect joints for compliance with requirements for joint configuration, installation tolerance, and other conditions affecting joint sealant performance. Correct unsatisfactory conditions before proceeding.

3.02 PREPARATION

- A. Prepare joints in accordance with ASTM C 1193 and manufacturer's instructions.
- B. Clean out joints immediately before installing joint sealants (within 1 to 2 hours of sealant application), in accordance with joint sealant manufacturer's recommendations and the following requirements:

1. Remove from joint substrates foreign material which could interfere with adhesion of joint sealant, including paints other than permanent protective coating tested and approved for sealant adhesion and compatibility by sealant manufacturer, oil, grease, waterproofing, water repellants, water dirt, and frost.
 2. Clean porous joint substrates using approved methods such as brushing, grinding, blast cleaning, mechanical abrading, and acid washing as appropriate, or a combination of these methods, to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
 3. Remove laitance and form-release agents from concrete.
 4. Clean metal and other nonporous substrates by using chemical cleaners or other means that neither are harmful to substrates nor leave residues capable of interfering with adhesion of joint sealants.
- C. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealant manufacturer. Apply primer to comply with joint sealant manufacturer's recommendations. Confine primers to area of joint sealer bond; do not allow spillage or migration onto adjoining surfaces. Allow primer to dry before applying sealant.
- D. Masking Tape: Use masking tape where required to prevent contamination of adjacent surfaces; remove tape immediately after tooling and before sealants begin to cure without disturbing seal.

3.03 EXISTING WORK

- A. Mechanically remove existing sealants.
- B. Clean joint surfaces of residual sealant and other contaminants capable of affecting sealant bond to joint surface by mechanical means.
- C. Allow joint surfaces to dry before installing new sealant.

3.04 SEALANT INSTALLATION

- D. Comply with joint sealant manufacturer's printed installation instructions.
- E. Installation of Sealant Backings:
1. Install joint filler to provide support of sealant during application and at position required to produce the cross-sectional shape and depth of installed sealant relative to joint width that allows optimum sealant movement capability.
 - a. Do not leave gaps between ends of joint fillers.
 - b. Do not stretch, twist, puncture, or tear joint fillers.
 - c. Remove fillers which have become wet prior to sealant application and replace with dry materials.
 2. Install bond breaker tape when joint depth is too shallow to allow backer rod.
- F. Installation of Sealant:
1. Install sealants by proven techniques that result in direct contact with and full wetting of joint substrates by joint sealant, completely filling recesses provided and providing uniform cross-sectional shapes and depths relative to joint widths. Sealant depth to be $\frac{1}{2}$ the width of the joint and $\frac{1}{3}$ the width at the center, creating an hourglass shape. Maximum depth of caulk at center to be $\frac{3}{8}$ ". Air pockets or voids are not acceptable.

2. Immediately after sealant application and prior to the skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealant from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or which are not approved by sealant manufacturer.

3.05 PROTECTION AND CLEANING

- A. Protect joint sealers, during and after curing, from contamination or damage. Cut out and remove damaged or deteriorated sealers and replace with new materials.
- B. Clean excess sealants or sealant smears adjacent to joints as work progresses.

3.06 FIELD QUALITY CONTROL

- A. Perform adhesion tests on exterior sealant in accordance with manufacturer's instructions and ASTM C1193, Method A, Field-Applied Sealant Joint Hand-Pull Tab.
 1. Perform 5 tests for first 1,000 linear feet of applied exterior sealant and 1 test for each 1,000 feet of seal thereafter. If there is less than 1,000 feet, perform 1 test per floor per building elevation minimum.
 2. For sealant applied between dissimilar materials, test both sides of joint.
- B. Sealants failing adhesion test shall be removed, substrates cleaned, sealants re-installed, and re-testing performed.
- C. Maintain test log and submit report to Architect indicating tests, locations, dates, results, and remedial actions.

END OF SECTION 07 92 00

SECTION 08 16 00

FRP FLUSH DOORS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. FRP flush doors and aluminum frames they occur in.
- B. Related work specified in other sections:
 - 1. Section 08 51 00 – Aluminum Curtainwall
 - 2. Section 08 71 00 – Finish Hardware.
 - 3. Section 08 80 00 – Glazing

1.03 QUALITY ASSURANCE

- A. Standards: comply with requirements and recommendations in applicable specification and standards by NAAMM and AAMA, including the terminology definitions and specifically including the “Entrance Manual” by NAAMM, except to the extent more stringent requirements are indicated.
- B. Performance: A minimum ten-year record of production of frames, doors and panels and completion of similar projects in type and size.
- C. Instruction: The manufacturer or his representative will be available for consultation to all parties engaged in the project including instruction to installation personnel.
- D. Field Measurement: Field verify all information prior to fabrication and furnish of materials. Furnish and install materials omitted due to lack of verification at no additional cost.
- E. Regulation and Codes: Comply with the current edition in force at the project location of all local, state and federal codes and regulations, including the Americans with Disabilities Act of 1992 and Michigan Barrier-Free.
- F. Air Infiltration: Provide systems with permanent resistance to air leakage through fixed glazing and frame areas of not more than 0.06 cfm/sq. ft. (0.3 L/s/sq. m) of fixed wall area when tested according to ASTM E 283 at a static-air-pressure difference of 1.57 lbf/sq. ft. (75.2 Pa).
- G. Water Penetration: Provide systems that do not evidence water leakage through fixed glazing and frame areas when tested according to ASTM E 331 at minimum differential pressure of 20 percent of inward-acting wind-load design pressure as defined by ASCE 7, “Minimum Design Loads for Buildings and Other Structures, “but not less than 6.24 lbf/sq. ft. (299 Pa). Water leakage is defined as follows.
 - 1. Uncontrolled water infiltrating systems or appearing on systems’ normally exposed interior surfaces from sources other than condensation. Water controlled by flashing and gutters that is drained back to the exterior and cannot damage adjacent materials or finishes is not water leakage.
- H. Thermal Movements: Provide systems, including anchorage, that accommodate thermal movements of systems and supporting elements resulting from the following maximum change (range) in ambient and surface temperatures

without buckling, damaging stresses on glazing, failure of joint sealants, damaging loads on fasteners, failure of doors or other operating units to function properly, and other detrimental effects.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient: 180 deg F (100 deg C), material surfaces.
- I. Provide door assemblies that have been designed and fabricated to comply with requirements for system performance characteristics listed below, as demonstrated by testing manufacturer's corresponding stock systems according to test methods designated.
- J. Thermal Transmission (exterior doors): U-value of not more than 0.09 (BTU/Hr. x sf x degrees F.) per AAMA 1503.01.
- K. Flame Spread/Smoke Developed: Provide FRP doors and panels with the following ratings in accordance with ASTM E 84-79a: Flame Spread: Exterior faces not greater than 345 (Class C); interior faces not greater than 320 (Class A).
- L. Additional Criteria: Provide FRP doors and panels with the following performance:
 - ASTM D 256- nominal value of 13.5
 - ASTM D 1242 – nominal value of .23 percent
 - ASTM D 570 – nominal value of .20 to .40 percent
 - ASTM D 2583 – nominal value of 50
- M. Wind Loads: Provide systems, including anchorage, capable of withstanding wind-load design pressures calculated according to requirements of authorities having jurisdiction of the American Society of Civil Engineers' ASCE 7, "Minimum Design Loads for Buildings and Other Structures", 6.4.2, "Analytical Procedure," whichever are more stringent.

1.04 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.
 1. Product Data: Manufacturer's product data, specifications and instructions for each type of door and frame required.
 - a. Include details of core, stile and rail construction, trim for lites and all other components.
 - b. Include details of finish hardware mounting.
 - c. Include sample of each aluminum alloy to be used on this project. Where normal finish color and texture variations are expected, include two or more samples to show the range of such variations.
 - d. Include one sample of typical fabricated section, showing joints, fastenings, quality of workmanship, hardware and accessory items before fabrication of the work proceeds.
 2. Shop drawings for the fabrication and installation of the doors and frames, and associated components. Details to be shown full scale. Include glazing details and finish hardware schedule.

1.05 PRODUCT PROTECTION

- A. Deliver materials to jobsite in their original, unopened packages with labels intact. Inspect materials for damage and advise manufacturer immediately of any unsatisfactory materials.
- B. Package door assemblies in individual corrugated cartons so no portion of the door has contact with the outer shell of the container. Package and ship frames pre-assembled to the greatest possible extent.

PART 2: PRODUCTS

2.01 MANUFACTURERS

A. Manufacturer(s): Subject to compliance with requirements, provide products of the following:

1. Special – Lite, Inc., Decatur, Michigan

2.02 MATERIALS

- A. Aluminum Members: Alloy and temper as recommended by manufacturer for strength, corrosion resistance and application of required finish and control of color; ASTM B 221 for extrusions, ASTM B 209 for sheet/plate with aluminum wall thickness of 0.125”.
- B. Components: Furnish door and frame components from the same manufacturer. “Splitting” of door and frame components is not permitted.
- C. Fasteners: Aluminum non-magnetic stainless steel or other non-corrosive metal fasteners, guaranteed by the manufacturer to be compatible with the doors, frames, stops, panels, hardware, anchors and other items being fastened. For exposed fasteners (if any) provide oval Phillips head screws with finish matching the item to be fastened.
- D. Glazing Gaskets: For glazing factory-installed glass, and for gaskets which are factory-installed in “captive” assembly for glazing stops. Manufacturer’s standard stripping of molded neoprene, complying with ASTM D 2000 (Designation 2BC415 to 3BC620), or molded PVC complying with ASTM C 509 Grade 4.

2.03 FIBERGLASS REINFORCED POLYESTER FRP FLUSH DOORS

A. Materials and Construction

1. Construct 1-3/4” thickness doors of 6063-T5 aluminum alloy stiles and rails minimum 2-5/16” depth. Provide joinery of 3/8” diameter full width tie rods through extruded splines top and bottom as standard .125” tubular shaped stiles and rails reinforced to accept hardware as specified. Provide hex type aircraft nuts for joinery without welds, glues or other methods for securing internal door extrusions. Furnish integral reglets to accept face sheet to permit a flush appearance. Rail caps or other face sheet capture methods are not acceptable.
2. Extruded top and bottom rail legs for interlocking continuous rail rigidity weather bar. Lock face sheet material in place with extruded interlocking edges to be flush with aluminum stiles and rails.
3. Door face sheeting .120” thickness fiberglass reinforced polyester, Spec Lite 3. SL-17 doors with pebble-like embossed pattern of the standard colors.
4. Core of Door Assembly: Minimum five pounds per cubic foot density poured-in-place polyurethane free of CFC. Minimum “R” value of 11. Ballistic rating is as indicated. Meeting stiles on pairs of doors, and weather bars with nylon rush weatherstripping.
5. Manufacture doors with cutouts for vision-lites or panels as indicated and scheduled. Factory furnish and install all glass and panels prior to shipment. 1” insulated, tempered glass.
6. Pre-machine doors in accordance with templates from the specified hardware manufacturers and approved hardware schedule. Factory install hardware.

B. Color: See Material Finish/Color Schedule for each site as shown on Drawings.

2.04 ALUMINUM FINISHES

- A. General: Comply with NAAMM’s “Metal Finishes Manual for Architectural and Metal Product” for recommendations relative to applying and designating finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved samples. Noticeable variations in the same piece are not acceptable.

Variations in appearance of other components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.

- C. Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.
- D. Color: As selected from manufacturers full color line.

2.05 FABRICATION

- A. Sizes and Profiles: The required sizes for door and frame units, and profile requirements are shown on the drawings.
- B. Coordination of Fabrication: Field measure before fabrication, and show recorded measurements on first shop drawings.
- C. Complete cutting, fitting, forming, drilling and grinding of all metal work prior to assembly. Remove burrs from cut edges, and ease edges and corners to a radius of approximately 1/64".
- D. No welding of doors or frames is acceptable.
- E. Maintain continuity of line and accurate relation of planes and angles. Secure attachments and support mechanical joints, with hairline fit at contacting members.

2.06 PROJECT WARRANTY

- A. Provide a written warranty signed by manufacturer, installer and contractor, agreeing to replace, at no cost to the Owner, any doors, frames or factory hardware installation which fail in materials or workmanship within the warranty period. Failure of materials or workmanship includes: excessive deflection, faulty operation of entrances, deterioration of finish, or construction in excess of normal weathering and defects in hardware installation. The minimum time period of warranty is ten (10) years from substantial completion.
- B. Submit in accordance with Section 01 78 23

PART 3: EXECUTION

3.01 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of entrance and storefront systems. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. General: Comply with manufacturer's written instructions for protecting, handling, and installing entrance and storefront systems. Do not install damaged components. Fit frame joints to produce hairline joint free of burrs and distortion. Rigidly secure non-movement joints. Seal joints watertight.
- B. Metal Protection: Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Install components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior.

- D. Set continuous sill members and flashing in a full sealant bed to provide weathertight construction, unless otherwise indicated. Comply with requirements of Division 7 Section "Joint Sealants."
- E. Install framing components plumb and true in alignment with established lines and grades without warp or rack of framing members.
 - 1. Install surface-mounted hardware according to manufacturer's written instructions using concealed fasteners to greatest extent possible.
- F. Install glazing to comply with requirements of Division 8 Section "Glazing", unless otherwise indicated.
- G. Install perimeter sealant to comply with requirements of Division 7 Section "Joint Sealants", unless otherwise indicated.
- H. Erection Tolerances: Install entrance and storefront systems to comply with the following maximum tolerances:
 - 1. Variation from Plane: Limit variation from plane or location shown to 1/8 inch in 12 feet; ¼ inch over total length.
 - 2. Alignment: Where surfaces abut in line, limit offset from true alignment to 1/16 inch. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch.
 - 3. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch.

3.03 ADJUSTING AND CLEANING

- A. Adjust doors and hardware to provide tight fit at contact points and weather stripping, smooth operation, and weathertight closure.
- B. Remove excess sealant and glazing compounds, and dirt from surfaces.

3.04 PROTECTION

- A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure entrance and storefront systems are without damage or deterioration at the time of Substantial Completion.

3.05 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door operation. At a minimum, provide 2 hours of demonstration.
 - 1. Provide adjustment tools and instruction sheets for Owner's use.
- B. Refer to Section 01 79 00 Demonstration and Training.

END OF SECTION 08 16 00

SECTION 08 40 00

ALUMINUM CURTAINWALLS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

A. Section Includes:

1. Aluminum curtain wall framing for
2. Glass
3. Joint sealants in contact with aluminum components.
4. Sealing of the cavity wall at openings in exterior wall.
5. Prior to installation of finished materials, all flexible flashings shall be observed by the Architect. The Architect shall be given a minimum of 72 hours notice prior to the desired observation time. Any finish materials (i.e., brick, insulation, metal, etc.) installed without observation by the Architect shall be removed and replaced at the Contractor's expense.

B. Products installed but not furnished under this Section:

1. Finish hardware - Section 08 71 00.

C. Related Sections:

1. Flashings - Section 07 65 00/13.
2. Finish hardware - Section 08 71 00.
3. Joint Sealants - Section 07 92 00.
4. Glazing Section - 08 80 00.

1.03 REFERENCES

- A. NAAMM - Metal Finishes Manual, 3rd ed., Jan. 1976.
- B. AAMA 501-83 - Methods of Test for Metal Curtain Walls.
- C. AAMA 502.02 – Methods of Testing Windows.
- D. AAMA 603.8-85 - Voluntary Performance Requirements and Test Procedures for Pigmented Organic Coatings on Extruded Aluminum.
- E. AAMA 605.2-85 - Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
- F. AAMA 1502.7-1981 - Voluntary Test Method for Condensation Resistance of Windows, Doors and Glazed Wall Sections.

- G. AAMA 1503.1-1980 - Voluntary Test Method for Thermal Transmittance of Windows, Doors and Glazed Wall Sections.
- H. AAMA 606.1-76 - Voluntary Guide Specifications and Inspection Methods for Integral Color Anodic Finishes for Architectural Aluminum.
- I. AAMA 607.1-77 - Voluntary Guide Specifications and Inspection Methods for Clear Anodic Finishes for Architectural Aluminum.
- J. AAMA 608.1-77: Voluntary Guide Specifications and Inspection Methods for Electrolytically Deposited Color Anodic Finishes for Architectural Aluminum.
- K. ASTM E 283-84 -- Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors; 1984.
- L. ASTM E330-84 -- Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference; 1984.
- M. ASTM E331-86 -- Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference; 1986.
- N. ASTM C 509-84 -- Specification for Cellular Elastomeric Preformed Gasket and Sealing Material.
- O. ASTM D 3656-89 -- Specification for Insect Screening and Louver Cloth Woven from Vinyl-Coated Glass Fiber Yarn.
- P. ASTM E 783-84 -- Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors.
- Q. ASTM E 1105-86 -- Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Curtain Walls, and Doors by Uniform Cyclic Static Pressure Difference.

1.04 PERFORMANCE REQUIREMENTS

- A. Exterior Assemblies: Design and fabricate to comply with the performance characteristics listed below.
- B. Thermal Movement: Allow for expansion and contraction resulting from ambient temperature range of 120 degrees F (49 degrees C).
- C. Provide capacity to withstand the following loads without deformation and without deflection greater than L/175 to spans up to 13'-6" and L/240 + 1/4" to spans greater than 13'-6" with the following Wind Load Provision of ANSI/ASCE 7:
 - 1. Basic Wind speed $V = 90$ mph
 - 2. Exposure Category: (A,B,C or D)
 - 3. Importance Factor: $I = (1.0 \text{ or } 1.15)$
 - 4. Occupancy Category: (1, 2, 3 or 4)
 - 5. Mean Roof Height: (In Feet)
- D. Condensation Resistance: Where framing systems are "thermal-break" construction, provide units tested for thermal performance in accordance with AAMA 1503 showing condensation resistance factor (CRF) of not less than: 57 for storefront framing and 67 for curtain wall framing based on an overall depth of 8".
- E. Thermal Transmittance: Provide framing systems that have an overall U-value of not more than 0.47 BTU/(hr. x sq. ft. x deg. F) at 15 mph exterior wind velocity when tested in accordance with NFRC – 102.

F. Air Infiltration Rate

1. Fixed windows/storefront/entrance curtain wall not be more than 0.06 cfm per sq. ft. of window area for an inward test pressure of 6.24 lbf per sq. ft., when tested in accordance with ASTM E 283.

G. Water Penetration: There will be not water penetration, as defined in ASTM E 331, when tested in accordance with ASTM E 331 at an inward test pressure of 15.00 (6.24 for storefront) lb per sq. ft.

1.05 SUBMITTALS

A. Submit in accordance with Section 01 33 00.

1. Shop Drawings: Submitted for approval by Architect, prior to fabrication. Indicate installation details, materials used, quantity and size required. Refer to Submittals Section to submittal requirements.
2. Samples:
 - a. Color: One (1) 12-inch extrusions with specified finish, properly labeled.
 - b. Glass: One (1) 12 inch square samples of each glass type indicated, properly labeled.
3. Letter from manufacturer approving contractor to install windows.
4. Test reports showing compliance with performance requirements.

B. Warranty: Submit per Section 01 78 23.

1.06 PROJECT CONDITIONS

A. Check actual unit opening by accurate field measurement before fabrication. Coordinate fabrication schedule with construction progress to avoid delay of work.

1.07 QUALITY ASSURANCE

- A. Manufacturer to be fully responsible for engineering fabrication and overseeing installation to insure a weather tight installation.
- B. Installer Qualifications: Authorized representative of the manufacturer, with not less than five (5) years experience in the fabrication and installation of products similar to those specified under this Section.
- C. Warranty:
1. Fabricated products: Manufacturer to provide written warranty agreeing to repair or replace product that fail in materials or factory workmanship within ten (10) years from the date of Substantial Completion.
 2. Glass: Provide written warranty of thermal and physical integrity of insulating glass units for ten (10) years from date of Substantial Completion.

PART 2: PRODUCTS

2.01 MANUFACTURERS

A. The following manufacturers/products are approved as noted below with the understanding they will meet the actual products specified: EFCO, Tubecraft and Wausau.

2.02 MATERIALS - GENERAL

- A. Aluminum Members: Alloy and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish; ASTM B 221 for extrusions, ASTM B 209 for sheet/plate.
- B. Fasteners: Aluminum, nonmagnetic stainless steel, or other materials warranted by manufacturer to be noncorrosive and compatible with aluminum components.
 - 1. Do not use exposed fasteners except where unavoidable for application of hardware.
 - 2. Exposed fasteners: Match finish of members and hardware being fastened.
- C. Concealed Flashing: Dead-soft stainless steel, 26 gage minimum; or extruded aluminum, 0.062 inch minimum; or an alloy and type selected by manufacturer for compatibility with other components.
- D. Exposed Flashing, Sills: .125 inch minimum shop formed aluminum sheet, finish to match window framing.
- E. Column covers and panels: .090 inch minimum shop formed aluminum sheet, backed with wall insulation (see Section Insulation 07 21 00 for conformance requirements) laminated with waterproof adhesive, finish to match window framing and be applied after shapes are formed.
- F. Brackets and Reinforcements: High-strength aluminum where feasible; otherwise, nonmagnetic stainless steel or hot-dip galvanized steel complying with ASTM A 123.
- G. Concrete/Masonry Inserts: Cast iron, malleable iron, or hot-dip galvanized steel complying with ASTM A 123.
- H. Dissimilar Metal Coating: Cold-applied asphalt mastic, zinc chromate paint, or other nonconductive, nonabsorbent material.
- I. Glazing Gaskets: Comply with ASTM C 864; style as recommended by manufacturer.
- J. Glass and Glazing Accessories: Provide products specified Section 08 80 00.
- K. Flexible flashing: Conform to requirements of Section 07 65 00/13.
- L. Joint sealants: conform to requirements of Section 07 92 00.
Color: See Material Finish/Color Schedule, Sections 14000 of Details of Construction.
- M. Door Weatherstrip: Silicon treated plastic pile.

2.03 FINISH

- A. See Material Finish/Color Schedule for each building site as shown on the Drawings.

2.04 CURTAINWALL

- A. Model: EFCO 5600 wall shop fabricated thermally broken pressure-type window system.
 - 1. Framing Profile: 6" nominal depth x 2¼" nominal width.
 - 2. Minimum Wall Thickness: 0.093" to 0.125".
 - 3. Thermal Barrier: Extruded PVC used as an applied thermal isolator.
 - 4. Glazing Installation: Outside dry glazed with an exterior aluminum pressure plate and snap over cover with interior and exterior dense EPDM preset gaskets.

2.05 GLASS

- A. Provide products and conform to requirements specified in Section 08 80 00.

2.06 ALUMINUM PANELS

- A. Materials

1. Exterior Panels: Flush, minimum 0.125-inch thick laminated to rigid wall insulation (conform to Section 07 21 00, Insulation). Fabricate so panel is glazed into glazing stop and face is flush with outside face of mullion cap.
2. Interior panel, flush, minimum 0.125-inch thick aluminum install with concealed clips so panel is flush with face of adjacent mullion.

2.07 FABRICATION

- A. Any dimensions which may vary are indicated on drawings, with maximum and minimum dimensions required to achieve design requirements and coordination with other work. Field verify all opening dimensions.
- B. Fabrication: To greatest extent possible, complete fabrication assembly, and finishing at manufacturers plant before shipment to project site. Disassemble components only as necessary for shipment and installation.
 1. Maintain accurate relation of planes and angles, with hairline fit of contacting members.
 2. Select members for fabrication so that adjacent anodized extruded aluminum members do not have color or texture variation greater than half the range indicated in the submitted samples.
 3. Factory-install all hardware except surface-mounted items.
 4. Perform fabrication operations, including cutting, fitting, forming, drilling, and grinding of metal work, in manner which prevents damage to exposed finish surfaces.
 - a. For hardware, perform these operations prior to application of finishes.
- C. Welding: Comply with AWS recommendations to avoid discoloration; grind exposed welds smooth and restore mechanical finish.
- D. Reinforcing: Install reinforcing as required for hardware and as necessary for performance requirements, sag resistance, and rigidity; separate dissimilar metals as specified under "Installation."

PART 3: EXECUTION

3.01 PREPARATION

- A. Verify and coordinate installation tolerances.
- B. Verify that openings are properly prepared, with blocking installed and cavities sealed.

3.02 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation of components.
- B. Install window flexible flashing under all sills and sill flashing. Turn up at ends to form end dams. Lap flashing 4" minimum and seal.

- C. Set units plumb, level, and true to line, without warp or rack. Provide proper support and anchor securely in place.
 - 1. Anchorage to allow for normal thermal movement specified building movement and specified wind loads.
- D. Separate aluminum exposed to weather from dissimilar metals; coat dissimilar metals that are in drainage cavities using one of the materials specified. Aluminum, stainless steel, zinc, cadmium, and small areas of white bronze are not considered dissimilar from each other.
- E. Coat all metals that come into contact with masonry, concrete, and treated wood, using one of the materials specified.
- F. Install surface-mounted hardware items, complying with hardware manufacturer's instructions and template requirements.
- G. Install joint sealers between framing and adjacent surfaces as indicated, to provide weathertight construction. Comply with requirements of Section 07 92 00 for installation of joint sealers.
- H. Install glass as specified in Section 08 80 00 and according to the framing manufacturer's printed instructions.
- I. Install aluminum panels and flashing as shown on Drawings.

3.03 ADJUST AND CLEAN

- A. Adjust operating hardware to function properly without binding, and to close doors tightly. Ensure that weatherstrip makes contact with door surfaces.
- B. Clean completed systems inside and out, promptly after erection and after installation of glass and sealants, taking care to avoid damage to finishes. Remove excess sealants, dirt, and other substances from aluminum surfaces.
- C. Clean glass surfaces as specified elsewhere.

3.04 FIELD QUALITY CONTROL

- A. Storefront "Punched Opening" Testing
 - 1. The Owner will employ an independent testing agent to perform testing as follows:
 - a. Storefront punched openings to be field tested in accordance with AAMA 502-90, "Voluntary Specification for Field Testing of Windows and Sliding Glass Doors", using Testing Method B.
 - b. Immediately test the first unit installed and two additional units after the completion of the project. Architect will identify locations.
 - c. Air infiltration tests to be conducted at a uniform static test pressure of 6.24 psf. The maximum allowable rate of air leakage will not exceed .15 cfm per foot of sash crack length.
 - d. Water penetration tests to be conducted at a static test pressure of 8 psf.
 - e. For each test that fails, the Architect/Testing Agent will select two additional openings to be tested. All unsuccessful tests, both original and retest as well as additional openings to be tested due to an unsuccessful test will be paid by the Contractor by deduct change order.

END OF SECTION 08 40 00

SECTION 08 71 00

FINISH HARDWARE

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. This Section includes the furnishing of butt hinges and the furnishing and installing of all finish hardware material specified herein, listed in the hardware schedule, or required by the Drawings.
- B. Items of hardware include:
 - 1. Finish hardware
 - 2. Thresholds and weatherstrip

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 08 16 00 - FRP Flush Doors.
- B. Section 08 51 00 - Aluminum Curtainwall.

1.04 REFERENCES

- A. Builders' Hardware Manufacturers Assoc., Inc. (BHMA), 60 E. 42nd St., New York, NY 10017.
 - 1. Recommended locations for builders' hardware.
- B. American National Standards Institute, Inc. (ANSI), 1430 Broadway, New York, NY 10018.
 - 1. A115.2 - Specifications for standard steel door and frame preparations for bored cylindrical locks for 1-3/8" and 1-3/4" doors.
- C. National Fire Protection Association, Inc. (NFPA), Battery March Park, Quincy, MA 02269.
 - 1. NFPA 80 - Standard for fire doors and windows.
 - 2. NFPA 101 - Code for safety to life from fire in buildings and structures.
- D. Underwriters Laboratories, Inc. (UL), 333 Pfingsten Road, Northbrook, IL 60062.
 - 1. Building Materials Directory.
- E. Builders' Hardware Manufacturers Assoc., Inc. (BHMA), 60 E. 42nd Street, New York, NY 10017.
 - 1. Recommended locations for builders' hardware.
- F. Building Codes: International Building Code, Adopted Edition.

1. Include State amendments modifying model codes in jurisdiction where project is constructed.

1.05 QUALITY ASSURANCE

- A. Except where specified in the hardware schedule, furnish products of only one manufacturer for each type of hardware.
- B. Supplier: Company specializing in the builders' hardware industry.
- C. Provide hardware for fire-rated openings conforming to UBC Standard 7-2.
- D. Provide hardware for fire-rated openings conforming in compliance with NFPA 80 1995 Edition.

1.06 REGULATORY REQUIREMENTS

- A. Furnish hardware listed by UL testing agency for all rated openings in conformance with requirements for the class of opening scheduled.
- B. Rating requirements have precedence over this specification where conflict exists.
- C. Furnish and install hardware that is in compliance with American with Disabilities Act of 1990 (ADA) technical standards, and current State Building Code.

1.07 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.

1. Schedules

- a. Immediately after award of the hardware contract, submit a detailed, vertical type hardware schedule and cut sheets for each type of hardware for approval. On existing buildings field verify existing swings and functions prior to submitting schedule.
 - b. Itemize hardware in the sequence and format established by this specification.
 1. List and describe each opening separately; include door number, room designations, degree of swing, and hand.
 2. List related details; include dimensions, door and frame material, and other conditions affecting hardware.
 3. List all hardware items; include manufacturer's name, quantity, product name, catalog number, size, finish, attachments, and related details where applicable.
 - c. Submit manufactures cut sheets on each type of hardware proposed.
 - d. Resubmit the corrected schedule when required.
 - e. Determine keying requirements by meeting with the Owner coordinated through the Architect, and submit a detailed keying schedule for review; resubmit the corrected schedule when required.
3. Samples: Submit samples of hardware items as may be required by the Architect; identify each sample and indicate the location of subsequent installation in the project.
 4. Templates: Furnish a copy of the approved hardware schedule and all pertinent templates or template information to each fabricator of material factory-prepared for the installation of hardware.

5. Include documentation for UL 10C or other approved testing agency stating hardware has passed UBC Standard 7-2.

1.08 DELIVERY, STORAGE AND HANDLING

- A. Deliver hardware to the job site in the manufacturer's original containers that have been marked to correspond with the approved hardware schedule for installation location.
- B. Store hardware in dry surroundings and protect against loss and damage.

PART 2: PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS/MATERIALS

A. Hinges

1. Butt hinge manufacturers and respective catalog numbers:

	<u>IVES</u>	<u>Hager</u>	<u>Stanley</u>	<u>McKinney</u>	<u>Bommer</u>
a.	5PB1	1279	F179	T2714	5000
b.	5BB1	BB1279	FBB179	TB2714	BB5000
c.	5BB1 630	BB1191	FBB191	TB2314	BB5002
d.	5BB1HW	BB1168	FBB168	T4B3786	BB5004
e.	5BB1HW630	BB1199	FBB199	T4B3386	BB5006

2. Continuous hinges manufacturers and respective catalog numbers:

<u>Markar</u>	<u>Stanley</u>
300 Series	600 Series

- a. Continuous hinges shall be full height pin and barrel type hinge providing full height door support up to 600 pounds. Edge mount (unless noted otherwise).
 - b. Hinges shall be constructed of heavy-duty 14-gauge material. The stainless internal pin shall have a diameter of .25 and the exterior barrel diameter of .438.
 - c. Hinge shall be non-handed with symmetrical templated hole pattern and factory drilled. Hinge must accept a minimum of 21 fasteners on the door and 21 fasteners on the frame.
 - d. Each knuckle to be 2", including split nylon bearing at each separation for quiet, smooth, self-lubricating operation.
 - e. Hinge to be able to carry Warnock Hersey Int. or UL for fire rated doors and frames up to three hours. Note: Fire label for doors and frames should be placed on the header and top rail of rated doors and frames.
 - f. Provide adjusting screws equal to Markar's "AdjustaScrew" for continuous hinges specified as HG-305. Adjustment to be able to correct frame fit problems up to 3/8".
3. When hinges are specified on the hardware schedule, furnish:
 - a. Interior openings through 36 inches wide and 60 inches high without a door closer: Two (2) standard-weight, plain bearing hinges #1279 per leaf.

- b. Interior openings through 36 inches wide and 90 inches high without a door closer: Three (3) standard-weight, plain bearing hinges #1279 per leaf.
- c. Interior openings through 36 inches wide and 60 inches high with a door closer: Two (2) standard-weight, ball bearing hinges #BB1279 per leaf.
- d. Interior openings through 36 inches wide and 90 inches high with a door closer: Three (3) standard-weight, ball bearing hinges #BB1279 per leaf.
- e. Interior openings over 36 inches in width and/or 90 inches in height: One (1) continuous hinge per leaf.
- f. Exterior hollow metal or stainless steel openings: One (1) continuous hinge per leaf.
- g. Exterior aluminum openings through 36 inch wide and 90 inches high: Four (4) heavyweight ball bearing hinges #BB1199xNRP per leaf.
- h. Exterior aluminum openings over 36 inches wide in width and/or 90 inches in height: One (1) continuous hinge per leaf.

B. Flush Bolts and Dustproof Strikes

- 1. Manufacturers and respective catalog numbers:

	<u>Ives</u>	<u>Door Controls</u>	<u>Hager</u>
a.	DP2	80	280X
b.	FB31P	842	292D
c.	FB41P	942	291D
d.	FB458	780	282D

- 2. Non-labeled openings: Furnish two flush bolts FB458 for the inactive leaf of pairs of locked or latched doors. Locate centerline of the top bolt not more than 78" from the finished floor. Furnish dustproof strike DP2 for the bottom bolt.
- 3. Labeled openings: Furnish automatic flush bolt set FB31P or FB41P, as applicable, for the inactive leaf of pairs of doors; furnish dustproof strike DP2 for the bottom bolt.

C. Exit Devices

- 1. Manufacturers and respective catalog numbers:

Precision Hardware
APEX 2000 Series

- 2. Furnish exit device series and functions specified in the hardware schedule.
- 3. Furnish sex bolt attachments for devices specified for mineral core door application.
- 4. Furnish reinforced cross bars for door over 40" wide.
- 5. Furnish rod and latch guards on all surface mounted vertical rod exit device, on bottom rods.
- 6. Vandal Resistant Lever Design: Von Duprin 996L; Precision Hardware V4900. All exit devices shall be provided with optional trim designs to match other lever and pull designs used on the project.
- 7. Removable mullion: KR4954/KR1654. Provide with cylinder to match building system.

8. Provide cylinder dogging on all non-rated devices. Provide cylinder to match building system.

D. Locks

1. Manufacturers and respective catalog numbers:

Corbin-Russwin

Series 67 (Athens and Troy High School and Smith Middle School)

Series 77 (Bernard, Bemis, Costello, Hamilton, Martel, Troy-Unions and Wade Elementary Schools)

2. Furnish lock types and functions specified in the hardware schedule, with the following provisions:

- a. Provide interchangeable cores at all exterior doors and all exit devices.
- b. Provide interchangeable cores at all locations.
- c. Strikes:
 - 1) Wrought box type for the inactive leaf of pairs of wood doors, or wood frames.
 - 2) Lip length sufficient to protect trim, frame or inactive leaf.
3. Furnish knurled lock knobs or lever handles on doors to stairs other than exit stairs, loading platforms, stages, boiler rooms, and other hazardous locations.
4. Lever handles must be cast brass, bronze or stainless steel construction and conform to ASNI A117.1.

E. Pulls, Push Plates/Bars, Flush cup pulls

1. Manufacturers and respective catalog numbers:

	<u>Hem</u>	<u>Hagar</u>	<u>Hiawatha</u>	<u>Burns</u>	<u>Rockwood</u>
a. Pull		10Q 18"	518B-18"	26C-18"	118
b. Push Plate (flush doors		30s 8x16	200K	57	70F
c. Push Plate (6" stile doors)		30s 4x16	200F	54	70C
d. Pushbar		130s	1081LBP	422	47
e. Flush Cup Pulls		27p	-	-	BF97

F. Coordinators

1. Manufacturers and respective catalog numbers:

<u>Ives</u>	<u>Door Control</u>	<u>Hager</u>
COR	600	297D

2. Furnish a COR series coordinator for labeled pairs of doors equipped with automatic flush bolts or vertical rod-mortise lock fire exit device combinations with astragals.
3. Furnish filler bars for total opening width, closer mounting brackets, carry bars, and special preparation for top latches where applicable.

G. Closers

1. Manufacturers and respective catalog numbers:

LCN

4011/4111 Series

2. Where closers are listed in the hardware schedule, furnish 4011/4111 EDA, 281/281P10 series unless other functions/series are specified in the hardware groups.
 3. Furnish complete with all mounting brackets, drop plates and special shoes as may be required by the door and frame conditions.
 4. Furnish through bolt attachments for closers specified for mineral core doors, unless solid wood blocking is provided for attachment.
 5. Determine closer size in accordance with manufacturer's recommendations for application on the room side of corridor doors, stair side of stair doors, and interior side of exterior doors.
 6. Provide SRI rust inhibitor primer for all closers in pools and corrosive areas.
- H. Kick Plates: Where kick plates are specified in the hardware schedule, furnish 16 gauge, .050" plates, with the following dimensions:
1. Width: 2" less than door width.
 2. Height: 8" (unless noted different on door schedule.)
 3. All kick plates shall be beveled 4 sides and counter sunk.

I. Overhead Stops

1. Manufacturers and respective catalog numbers:

	<u>Glynn-Johnson</u>	<u>Rixson-Firemark</u>
a. GJ450		10
b. GJ90		9
c. GJ100		1
2. Furnish a GJ90 series overhead stop for all doors equipped with regular arm surface type closers that swing more than 140 degrees before striking a wall and for all doors that open against equipment, casework, sidelights, or other objects that would make wall bumpers inappropriate.
3. Furnish a GJ90 or GJ100 series overhead holder where listed in the Hardware Schedule.
4. Furnish sex bolt attachments for mineral core door applications, unless solid wood blocking is provided in the door for attachment.

J. Floor and Wall Stops and Holders

1. Manufacturers and respective catalog numbers:

	<u>Ives</u>	<u>Hager</u>	<u>Burns</u>
a. Wall bumper	WS407CVX	232W	570
b. Wall stop	WS11X	255W	530
c. Holder	WS20X	254W	
d. Floor stop	FS435/FS436	241F/246B	510/525
e. Wall holder	WS40	326W	533
f. Exterior Floor Stop	FS9		

2. Furnish a WS407CVX series wall stop, as applicable, for each door leaf except where wall bumper WS11X, floor stops FS435/FS436, holders WS20X, wall holder WS40 or overhead stops/holders are specified in the hardware schedule.
3. Where wall stops are not applicable, furnish overhead stops as previously specified within this section of the specification.

K. Thresholds, Weatherstrips and Jamb Gaskets

1. Manufacturers and respective catalog numbers:

	<u>Reese</u>	<u>Pemko</u>	<u>National Guard</u>
a. Saddle threshold	S205A	171A	425E
b. Half saddle threshold	S245A	229A	325 Alum
c. Bumper seal threshold	S483AV	2005AV	896 Alum (Vinyl)
d. Weatherstrip	755A	2891APK	700NA
e. Astragal weatherstrip	804	Pair 309	185
f. Sweep	964C	18061CP	B606A
g. Head and Jamb Gasket	797	S88	5050
h. Drip	R201	346	16
i. Jamb sound seal	F499	350CSR	1038
j. Auto door bottom	F521	430CPKL	420

2. Where specified in the hardware groups, furnish the above products unless otherwise details in groups.
3. Furnish 5050 head/jamb gaskets and NGP 9605 edge stile astragals for pairs, at all fire labeled doors whether listed in group or not. *Reese and Pemko equivalents approved based on passing UL 10C, UBC test Standard 7-2.
4. Coordinate with door manufacturer the intumescent fire and smoke material for fire rated openings as required by door and frame manufacturer to comply with UL 10C, UBC test 7-2.
5. When "threshold" appears within a hardware group provide the following:
 - a. At aluminum entrances on new buildings provide a half saddle threshold.
 - b. At aluminum entrances on existing buildings provide a saddle threshold.
 - c. At interior door ways provide a saddle threshold.
 - d. At exterior doorways from occupied rooms and HM or FRP exit only doors provide a bumper seal threshold.
 - e. At exterior HM or FRP doors to receiving areas, loading docks and boiler rooms provide a saddle threshold.

L. Lock Protectors

1. Manufacturers and respective catalog numbers.

Ives
LG1-LG14

N. Accessibility Closers

1. Manufacturer: LCN is specified.
 - a. When the term "accessibility closers" appears on the hardware schedule, provide a complete system, including all necessary brackets, mounting plates, tubing and the following items:
 - 1) Closer: Auto Equalizer #4822.
 - 2) Actuators: #8310-856 Provide two (2) per door leaf.
 - 3) Control Box: #7982ES Provide one (1) box for every two (2) door leafs for vestibule locations. Provide one box for single door leafs at other locations.
 - 4) Tubing: #925 (Length as required.)

O. Electric Strikes

1. When the term "electric strike" appears on the hardware schedule, provide a complete system including all necessary parts and the following items:
 - a. Von Duprin series #6000, Fail Secure (FS), 24 VDC (verify voltage with Architect before ordering).
 - b. Provide PS 861 BK battery backup with key lock power supply. Standard input 120 VAC at 0.6 amps.
 - c. Provide and install wiring from electric strike to power supply.

2.03 ACCESSORIES AND ATTACHMENTS

- A. Furnish all necessary hardware accessories such as wood or machine screws, bolts, nuts, anchors, toggle bolts, and other fasteners, each of the type, size, material and finish for its intended purpose and each according to the material to which the hardware is being applied.

2.04 FINISH AND BASE METALS

- A. Finish and Base Metal: See Schedule of Finishes Below.

1	Butt Hinges-Exterior	As Specified	US32D on stainless steel
2	Exit Devices	As Specified	US26D on brass or bronze
3	Locks	As Specified	US26D on brass or bronze
4	Coordinators	As Specified	USP on steel
5	Closers	As Specified	Sprayed AL on cast iron or aluminum
6	Protective plates	As Specified	US32D on Stainless Steel
7	Overhead Stops	As Specified	US26D on brass, bronze, or steel
8	Wall Stops	As Specified	US26D on brass, bronze, or steel
9	Thresholds	As Specified	Mill aluminum
10	Weatherstrips And Sweep Strips	As Specified	Clear anodized aluminum
11	Miscellaneous	As Specified	US26D on brass or bronze

2.05 KEYING

- A. Change key and masterkey all lock cylinders as directed by the Architect.
- B. Furnish two change keys for each lock, six masterkeys for each masterkey set, and two removable core control keys.
- C. Stamp keys with file key number and "Do Not Copy."

- D. Ship masterkeys and control keys to the Owner via registered mail.

PART 3: EXECUTION

3.01 INSTALLATION

- A. Install hardware in accordance with manufacturer's recommendations / instructions, and the adopted Building Code.
- B. Install hardware on UL labeled openings in accordance with manufacturer's requirements, so as to maintain the label.
- C. Install hardware mountable weatherstripping continuous throughout opening prior to installation of other hardware.
- D. Mortise and cut to close tolerance and conceal evidence of cutting in the finished work.
- E. Remove, cover or protect hardware after fitting until paint or other finish is applied; permanently install hardware after finishing operations are complete.
- F. Install closers on the room side of corridor doors, stair side of stairways, and interior side of exterior doors.
- G. Mounting heights:
 - 1. Install hardware at mounting heights conforming to the recommended mounting locations of the Builders' Hardware Manufacturing Association, and the adopted Building Code.
 - 2. Install wall stops WS11X, wall holders WS20X, and magnetic holders to strike near top of doors, but not more than 78" from the finished floor line; install wall stops WS407CVX to engage knobs, levers or pulls.
- H. Install pulls at 40" to top of pull and push bars at 36" above finished floor. Off set pull on exterior door rails to allow access to cylinders.
- I. Deliver to the Owner one complete set of installation and adjustment instructions, and tools as furnished with the hardware.
- J. Before hardware installation, general contractor/construction manager shall coordinate a hardware installation seminar to be conducted on the rough-in of electrical boxes for hardware and the installation of hardware, specifically of locksets, closers/accessibility closers, exit devices, hardware, mountable weatherstrip and overhead stops. Manufacturer's representative of the above products to present seminar. Seminar to be held at the job site and attended by installers of hardware (including low voltage hardware) for aluminum, hollow metal and wood doors. Training to include use of installation manuals, hardware schedule, templates and physical product samples. The architect needs to be informed of the meeting and contractor is to distribute meeting minutes on issues raised at seminar.
- K. Install per door and/or frame manufacturer's supplemental "S" label instructions on fire rated openings.

3.02 ADJUSTING AND CLEANING

- A. At final completion, adjust and test all hardware for function, performance, building code compliance and leave in good operating condition. Panic Hardware device manufacturer's representative to inspect panic hardware installation and provide a report to contractor and architect on items that need correction.
- B. Clean all hardware to restore the original finish.

3.03 PROTECTION

- A. Protect the finished installation until acceptance of the project.
- B. Provide final adjustment or cleaning where necessary.

3.04 DEMONSTRATION

- A. Engage a factory-authorized service representative(s) to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. At a minimum, provide the following training:

- | | |
|---------------------------|---------|
| 1. Miscellaneous hardware | 1 hour |
| 2. Exit devices | 2 hours |
| 3. Locks | 1 hour |
| 4. Closers | 1 hour |
| 5. Electromagnetic locks | 2 hours |
| 6. Accessibility closers | 2 hours |

Refer to Section 01 79 00 Demonstration and Training.

END OF SECTION 08 71 00

SECTION 08 80 00

GLAZING

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. Section includes:
 - 1. Exterior Insulated Glazing
 - a. Safety glass in locations identified in Part 3.
 - b. Clear glass in FRP doors.
 - c. Clear glass in windows, storefront and curtainwall.
- B. Related work specified in other sections:
 - 1. FRP doors - Section 08 16 00.
 - 2. Aluminum Entrances, Storefronts and Curtainwalls - Section 08 40 00.

1.03 QUALITY ASSURANCE

- A. Reference Specification: Glazing Manual by Flat Glass Marketing Association.
- B. Materials: Conform in all respects to the "Safety Standard for Architectural Glazing Materials" (16CFR 1201) issued by the Consumer Product Safety Commission and Chapter 24 of the Uniform Building Code.
- C. Insulating glass units to be CBA rated with the Insulating Glass Certification Council (IGCC) in accordance with ASTM Specifications E-773 and E-774.

1.04 SUBMITTALS

- A. Submit per Section 01 33 00.
 - 1. Manufacturer's recommended installation instructions.
 - 2. Samples for each type glass specified.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Package, handle, deliver and store at the job site in a manner that will avoid damage. Reject scratched glass.

1.06 WARRANTY

- A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.

1. Warranty Period: 10 years from date of Substantial Completion.
- B. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form in which insulating-glass manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.
1. Warranty Period: 10 years from date of Substantial Completion.
- C. Submit per Section 01 78 23.

PART 2: PRODUCTS

2.01 MANUFACTURERS/FABRICATORS

- A. Glass Manufacturers and/or Coating Manufacturers: PPG Industries, www.ppgglazing.com; Guardian Industries, www.sunguardglass.com; AGC Flat Glass North America, www.afgglass.com; Pilkington North America, Inc., www.pilkington.com; Visteon Corporation, www.visteon.com; Viracon, www.viracon.com.
- B. Safety Glass Manufacturers: SAFTI First, www.safti.com. Comparable products as manufactured by Technical Glass Products, www.fireglass.com are acceptable.
- C. Interlayer Manufacturers: Solutia/Saflex, www.saflex.com or equal.
- D. Glass Product Fabricators: As certified by glass manufacturers and/or coating manufacturers.

2.03 EXTERIOR GLAZING

- A. Low-E glass to be solar control (MSVD coating process).
- B. For locations requiring safety glazing, provide heat-tempered glass for inboard and outboard lites.
- C. Clear:
1. Solarscreen Low-E (VE) Insulating Glass #VE 1-2M consisting of an outboard lite of 1/4" clear, VE-2M on #2 surface, a 1/2" argon space and 1/4" clear inboard lite with the following characteristics:
 - a. Transmittance

1) Visible Light	70%
2) Solar Energy	31%
3) Ultra-Violet	10%
 - b. Reflectance

1) Visible Light Exterior	11%
2) Visible Light Interior	12%
3) Solar Energy	31%
 - c. ASHRAE U-Value

1) Summer Daytime	0.21 Btu
2) Winter Nighttime	0.25 Btu
 - d. Shading Coefficient
 0.43 |

- e. Relative Heat Gain 89 Btu/hr x Sq.Ft.
 - f. Solar Factor (SHGC) 0.37
 - g. LSG 1.9
 - h. For locations indicated for spandrel, provide ceramic frits on surface #4.
- 1) Color: See Material Finish/Color Schedule Section 14000 of Details of Construction.

D. Safety

1. Solarscreen Low-E insulating laminated glass #VE 1-2M consisting of an outboard lite of 1/8" clear/0.030" clear PVB/1/8" clear heat-tempered, 1/4" clear, VE-2M #2 surface, 7/16" air space, and inboard lite with the following characteristics:
 - a. Transmittance
 - 1) Visible Light 67%
 - 2) Solar Energy 30%
 - 3) Ultra-Violet 0%
 - b. Reflectance
 - 1) Visible Light Exterior 11%
 - 2) Visible Light Interior 11%
 - 3) Solar Energy 30%
 - c. ASHRAE U-Value
 - 1) Summer Daytime 0.26 Btu
 - 2) Winter Nighttime 0.29 Btu
 - d. Shading Coefficient 0.43
 - e. Relative Heat Gain 90 Btu/hr x Sq.Ft.
 - f. Solar Factor (SHGC) 0.37
 - g. LSG 1.82

2.04 ACCESSORIES

- A. Glazing Sealant: One-part polysulphide, similar to Pecora Dynatrol I.
- B. Setting Blocks: 70-90 Shore "A" durometer, sized to accommodate size of glass used, compatible with glazing sealant.
- C. Spacers: Compatible with sealant used.
- D. Primer - Sealers, Cleaners: As recommended by glass manufacturer.

PART 3: EXECUTION

3.01 INSPECTION

- A. Check that glazing channels are free of burrs, irregularities, and debris.

- B. Check that glass is free of edge damage or face imperfections.
- C. Do not proceed with installation until conditions are satisfactory.

3.02 PREPARATION

A. Field Measurements:

- 1. Measure size of frame to receive glass.
- 2. Compute actual glass size, allowing for edge clearances.

B. Preparation of Surfaces:

- 1. Remove protective coatings from surfaces to be glazed.
- 2. Clean glass and glazing surfaces, to remove dust, oil and contaminants. Wipe dry.

3.03 SAFETY GLAZING

A. Install safety glazing at the following locations and/or as required by local building codes.

- 1. Doors and adjacent glazing.
 - a. In doors when glass is wider than 2 15/16".
 - b. Glass within 24" of vertical door edges and to a point 60" above the floor.
- 2. Individual fixed or operable panels when all of the following conditions are met:
 - a. Individual panes 9 square feet and greater.
 - b. Glass within 18" of the floor.
 - c. When exposed individual pane is greater than 36" above the floor, except when a horizontal mullion is detailed between 34" and 38" above the floor.
 - d. Walking surfaces within 36 inches horizontally of the pane of glazing.
- 2. Stairs, landings and ramps.
 - a. In guards or railings adjacent to stairs, landings and ramps.
 - b. Glazing adjacent to stairways, landings and ramps within 36" horizontally of walking surface and less than 60" above pane of adjacent walking surface.
 - c. Glazing adjacent to bottom tread of stairways within 60" horizontally and less than 60" above the nose of the tread, unless the glass is protected by a guardrail and the glass is greater than 18" of the guardrail.
- 3. Athletic facilities.
 - a. Glazing in gymnasiums, swimming pools, multi-purpose athletic rooms.
 - b. Wall mirrors in multi-purpose athletic rooms.

3.04 INSTALLATION

- A. Install glass in accordance with glass manufacturer's current printed instructions.
- B. Install sliding glass doors in accordance with manufacturer's instructions and as shown on Drawings.

3.05 CLEANING

- A. Remove excess glazing compound from installed glass.
- B. Remove labels from glass surface as soon as installed.

- C. Wash and polish both faces of glass.
- D. Remove debris from work site.

3.06 PROTECTION OF COMPLETED WORK

- A. Attach crossed streamers away from glass face.
- B. Do not apply markers to glass surface.
- C. Replace damaged glass.

END OF SECTION 08 80 00

SECTION 08 91 00

LOUVERS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. Section includes:

1. Pre-finished aluminum exterior wall louvers.
2. Prior to installation of finished materials, all flexible flashings shall be observed by the Architect. The Architect shall be given a minimum of 72 hours notice prior to the desired observation time. Any finish materials (i.e., brick, insulation, metal, etc.) installed without observation by the Architect shall be removed and replaced at the Contractor's expense.

- B. Related work specified in other sections:

1. Flashings – Section 07 65 00/13.
2. Caulking and sealants – Section 07 92 00.

1.03 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.

1. Product Data: Submit product data sheet for specified products.
 - a. Performance Certificates: Submit performance certification, if not include in product data.
2. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, flexible flashings, accessories, finish colors, patterns and textures.
 - a. Include information necessary for fabrication and installation of louvers. Indicate materials, sizes, thickness, fastening and profiles.
3. Quality Assurance Submittals: Submit the following:
 - a. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
 - 1) Submit certified test results from an approved testing laboratory showing that the louvers proposed meet the criteria specified herein.
 - b. Certificates: Product certificate signed by manufacturer certifying materials comply with specified performance characteristics and criteria, and physical requirements.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Package, handle, deliver and store at the job site in a manner which will avoid damage or deformation. Damaged louvers including nicks, scratches and blemishes will be rejected.

1.06 PROJECT CONDITIONS

- A. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings.
- B. When schedule does not allow time for field measurements, proceed with fabrication without field measurements and coordinate dimensions for workers on site to "Hold" to ensure proper fit of louvers.

PART 2: PRODUCTS

2.01 LOUVERS

- A. Manufacturer: Products by Industrial Louvers, Inc., www.industriallouvers.com, 763-972-2981 are specified. Other manufacturers noted subject to conformance with specification are acceptable: Construction Specialties, Inc., Airline Products Co., Commercial Air Products, The Airolite Co., Arrow United Industries, and Ruskin Manufacturing Co., Cesco Products, Safe-air/Dowco, American Warming and Ventilating.

2.02 WALL LOUVERS

- A. Model 458XP (Drainable Blade):
 - 1. Extruded aluminum frame and blades shall be designed to collect and drain water to exterior at sill by means of gutters in front edges of blades and of channels in jambs. Frames and blade thickness to be .081" extruded aluminum 6063 alloy. Sill and jamb frames shall be continuously welded and caulked to prevent water penetration to interior wall construction. Blades are attached by means of all-welded construction.
 - 2. Louvers shall bear the AMCA Certified Ratings Seal for both air performance and water penetration. Louvers shall have a minimum of 8.91 sq. ft. (56%) free area on 48" x 48" louver. Rating shall show 3.8 mm of water gauge at airflow of 974 fpm. Static Pressure Loss shall be not more than 15°.
- B. Louver Accessories
 - 1. Exterior Aluminum Sill: Provide sill flashing of same material and finish as louvers, thickness as indicated on the drawings.
 - 2. Louver Screens: Provide framed removable screens for exterior louvers.
 - a. Screens shall be 1/2" mesh .063 flattened expanded aluminum mounted in a removable extruded aluminum frame.
 - b. Locate screens on inside face of louvers.
 - c. Screen frames shall have welded corners and be secured to the louver frame with machine screws, at each corner and at 12" c.o. between.
 - 3. Blank Off-Panels: .032" aluminum sheet, finish to match louvers.
 - 4. Insulated Blank-Off Panels: 1" rigid wall insulation conforming to Specification Section 07 21 00, Insulation, sandwiched between .032 aluminum sheet and perimeter cap of .063" extruded aluminum. Finish same as louvers.

2.03 SCREEN LOUVERS

- A. Model 435: (Sight Proof Louvers)

1. Frames and blade thickness to be .081" extruded aluminum 6063 alloy. Blades shall be attached by means of all welded construction.

2.04 MATERIALS

- A. Aluminum Sheet: ASTM B209 Alloy 3003 or 5005 with temper as required for forming, or as otherwise recommended by metal producer to provide required finish.
- B. Aluminum Extrusions: ASTM B221, Alloy 6063.
- C. Fastenings: Provide stainless steel screws and fasteners for aluminum louvers and zinc-coated or stainless steel screws and fasteners for steel louvers. Provide other accessories as required for complete and proper installation.

2.05 FABRICATION

- A. Fabrication Requirements:
 1. Performance: Fabricate as required for optimum performance with respect to water penetration, strength, durability and uniform appearance.
 2. Size:
 - a. Fabricate louvers in masonry walls to outside dimensions indicated, with allowance of 3/8" on each side for sealant joints.
 - b. Verify sizes with final HVAC shop drawings, including detail dimensions of ductwork, dampers or other fittings abutting louvers.
 3. Field Measurements: Verify size, location and placement of louver units prior to fabrication.
 4. Shop Assembly:
 - a. Fabricate to minimize field adjustments, splicing, mechanical joints and field assembly of units.
 - b. Preassemble units in shop to greatest possible and disassemble as necessary for shipping and handling.
 - c. Clearly mark units for reassembly and coordinated installation.
 5. Accessories: Include supports, anchorages and accessories required for complete assembly.
 6. Vertical Mullions: Provide vertical mullions of type and spacing indicated but not further apart than recommended by the manufacturer.
 7. Horizontal Mullions: Provide horizontal mullions at horizontal joints between louver units except where continuous vertical assemblies are indicated.
 8. Connections: Join frame and blade members to one another by welding, except where field bolted connections between frame members are made necessary by size of louvers.
 9. Spacing: Maintain equal blade spacing to produce uniform appearance.

2.06 FACTORY FINISHES

- A. Finish/Colors: See Material Finish/Color Schedule for each site as shown on the Drawings.

PART 3: EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions, and product carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

3.03 INSTALLATION

- A. Louver Installation:
 - 1. Louvers shall be installed in accordance with manufacturers approved shop drawings and as shown. Provide all necessary fastenings and anchors required to complete installation.
 - 2. Form tight joints within work of this Section. Fit exposed connections accurately.
 - 3. Protect metal surfaces from corrosion or galvanic action by application of a heavy coating of bituminous paint on surfaces, which shall be in contact with concrete, masonry or dissimilar metals.

3.04 PROTECTION AND CLEANING

- A. Protect louvers and finish from damage by other trades.
- B. Repair damaged louvers or replace.

END OF SECTION 08 91 00

SECTION 09 91 00

PAINTING

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

- A. Section includes:

1. Field finish all materials scheduled and/or specified for paint, trim, stain or seal. Including but not limited to:
 - a. Concrete block
 - b. Steel
 - c. Galvanized metal
 - d. Aluminum
 - e. Gypsum Board
 - f. Plaster

- B. Related work specified in other sections:

1. Shop finishing - Applicable Sections.
2. Colored sealants – Section 07 92 00

1.03 SUBMITTALS

- A. Provide three (3) copies of a schedule detailing each substrate in the same order as the schedules used in Part 2 of this section. Include the following:

1. The specific products to be used for each coat.
2. Documentation that the manufacturer has reviewed and approved each painting system.
3. Data pages for all products listed, highlight the following:
 - a. Type of resin.
 - b. Dry Film Thickness.
 - c. Volume Solids.
 - d. Units of Sheen.
 - e. VOC content and chemical components.
 - f. Other performance or descriptive data required by Part 2 of this section.
 - g. If this information is not on the data page provide the information in a letter of certification from the manufacturer. Attach the letter to the appropriate data page.

- B. Submit three (3) drawdowns of each product and color combination. Drawdowns shall be applied using a 4 mil WFT drawdown bar on Leneta form WD plain white coated cards size 3-7/8" x 6".

1. Label each card with the following:

- a. Job name.
 - b. Date.
 - c. Product name.
 - d. Product number.
 - e. Color number as stated in the material finish/color schedule.
 - f. Name, address, and phone number of the supplying facility.
 - g. Surface material product is to be applied onto.
- C. Do not deliver material to site until having received written approval of submitted information and samples.
- D. Complete sample area on project as selected by Architect on each type surface and with each type of paint system specified. Do not proceed further with application until receiving acceptance of each sample area by Architect. Accepted areas will serve as standard of quality for entire project.

1.05 EXAMINATION OF DOCUMENTS

- A. Examine the specifications for the work of other trade contractors and to become familiar with their work. All surfaces that are left unfinished by the requirements of other specifications to be finished by this section.

1.06 EXISTING CONDITIONS

- A. The existing building may contain lead-containing materials, including paint. It is the Contractor's responsibility to meet all governmental regulations when dealing with and disposing of lead containing materials.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use, in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg. F.
 - 1. Maintain containers in clean condition, free for foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.08 PROJECT CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 degrees F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.
- C. Do not apply coatings during cold, rainy or frosty weather.
- D. Do not apply to surfaces, which are exposed to hot sun.

1.09 QUALITY ASSURANCE

- A. MPI Standards:
 - 1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."
 - 2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.
 - 3. Previously Painted Surface Preparation and Workmanship: Comply with requirements in "MPI Maintenance and Repainting Manual" for products and paint system indicated.

PART 2: PRODUCTS

2.01 PAINTING SYSTEMS

- A. Painting systems for normal applications are specified using the products of Sherwin-Williams Co. (S-W), ICI Paints (ICI) and Pittsburgh Paints (PPG) to establish standards of quality, except as noted.
 - 1. Other manufacturers can submit for approval through the pre-bid process defined in Section 01 25 00 Substitutions and Product options.
 - a. For approval, submit data sheets for each paint type with volume solids and VOC's highlighted to indicate they meet or exceed products specified in Part 2.
- B. Painting systems for specialty applications are specified using the products of Aquarius Coatings, Carboline, Seal-Krete, Rosco.
- C. Use the materials of the same manufacturer for each system.
- D. VOC Content of Field-Applied Interior Paints and Coatings: Provide products that comply with the following limits for VOC content, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24); these requirements do not apply to paints and coatings that are applied in a fabrication or finishing shop:
 - 1. Flat Paints and Coatings, VOC content of not more than 50 g/L.
 - 2. Non-flat Paints, Coatings and Primers: VOC content of not more than 150 g/L.
 - 3. Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
 - 4. Floor Coatings: VOC not more than 100 g/L.
 - 5. Shellacs, Clear: VOC not more than 730 g/L.
 - 6. Shellacs, Pigmented: VOC not more than 550 g/L.
- E. For color selection see Material Finish/Color Schedule.
- F. Chemical Components of Field-Applied Paints and Coatings: Provide topcoat paints and anti-corrosive and anti-rust paints applied to ferrous metals that comply with the following chemical restrictions; these requirements do not apply to paints and coatings that are applied in a fabrication or finishing shop:
 - 1. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
 - 2. Restricted Components: Paints and coatings shall not contain any of the following:
 - a. Acrolein
 - b. Acrylonitrile
 - c. Antimony
 - d. Benzene
 - e. Butyl benzyl phthalate
 - f. Cadmium
 - g. Di (2-ethylhexyl) phthalate
 - h. Di-n-butyl phthalate
 - i. Di-n-octyl phthalate
 - j. 1,2-dichlorobenzene
 - k. Diethyl phthalate
 - l. Dimethyl phthalate
 - m. Ethylbenzene

- n. Formaldehyde
- o. Hexavalent chromium
- p. Isophorone
- q. Lead
- r. Mercury
- s. Methyl ethyl ketone
- t. Methyl isobutyl ketone
- u. Methylene chloride
- v. Naphthalene
- w. Toluene (methylbenzene)
- x. 1,1,1-trichloroethane
- y. Vinyl chloride

2.02 PRIMERS (INTERIOR AND EXTERIOR)

A. 100% Acrylic Exterior Masonry Primer:

- 1. Minimum Volume Solids: 34%.
- 2. Maximum VOC: 100 g/L
- 3. Alkali Resistance: Passes ASTM D1308
 - a. S-W Loxon Exterior Acrylic Masonry Primer A24W300.
 - b. ICI 6001-1200 Prep and Prime Hydrosealer Waterborne Multi Purpose Exterior Primer/Sealer.
 - c. PPG Perma-Crete Acrylic Alkali Resistant Primer 4-603.\

B. 100% Acrylic, Interior Alkali Resistant Primer:

- 1. Minimum Volume Solids: 35%.
- 2. Maximum VOC: 150 g/L
- 3. Alkali Resistance: Tolerance of PH levels up to 13.
 - a. S-W PrepRite Masonry Primer B28W300.
 - b. ICI 3210 Prep and Prime Gripper Mutli-Purpose Interior/Exterior Water Based Primer Sealer.
 - c. PPG Perma-Crete Int/Ext Alkali Resistant Primer, 4-603.

C. 100% Acrylic Interior Primer:

- 1. Shall be certifiable for use on gypsum drywall or wood, and paint.
- 2. Minimum Volume Solids: 37%.
- 3. Maximum VOC: 150 g/L
 - a. S-W ProGreen 200 Low VOC Interior Latex Primer B28W600
 - b. ICI 3210 Prep and Prime Gripper Mutli-Purpose Interior/Exterior Water Based Primer Sealer.
 - c. PPG Seal Grip Int/Ext. Acrylic Universal Primer/Sealer, 17-921.

D. Rust-inhibitive Waterborne Acrylic Primer:

- 1. Minimum Volume Solids: 37%.
- 2. Maximum VOC: 250 g/L
 - a. S-W DTM Acrylic Primer/Finish B66W1.
 - b. ICI 4020PF Direct to Metal Primer and Flat Finish.
 - c. PPG Pitt-Tech Int/Ext Primer DTM, 90-712.

2.03 BLOCKFILLERS (INTERIOR AND EXTERIOR)

A. Vinyl Acrylic Blockfiller:

- 1. Minimum Volume Solids: 44%.
- 2. Maximum VOC: 150 g/L

- a. S-W PrepRite Block Filler B25W25.
- b. ICI 3010 Prep and Prime Block Filler Interior/Exterior Water Based Primer.
- c. PPG Speedhide Int/Ext Masonry Block Filler, 6-7.

2.04 EXTERIOR FINISH PAINTS

- A. 100% Acrylic Exterior Satin Coating:
 - 1. Minimum Volume Solids: 29%.
 - 2. Maximum VOC: 150 g/L
 - 3. Sheen: 10-20 units at 60 degrees.
 - a. S-W A-100 Exterior Latex Satin A82 series.
 - b. ICI 2402 Dulux Professional Exterior 100% Acrylic Satin Finish.
 - c. PPG Sun-Proof Exterior 100% Acrylic Satin Finish, 76-45.
- B. Non-blocking, 100% Acrylic Exterior Gloss Coating:
 - 1. Minimum Volume Solids: 34%.
 - 2. Maximum VOC: 150 g/L
 - 3. Sheen: 70-90 units at 60 degrees.
 - a. S-W Super Paint Exterior High Gloss Latex Enamel A85 Series.
 - b. ICI 3028 Dulux Interior Exterior Acrylic Gloss Enamel.
 - c. PPG Manor Hall Interior/Exterior Gloss Acrylic Latex, 52-110.

2.06 INTERIOR FINISH PAINTS

- A. Vinyl Acrylic Interior Eggshell Finish:
 - 1. Minimum Volume Solids: 35%.
 - 2. Maximum VOC: 150 g/L
 - a. S-W ProGreen 200 Low VOC Eg-Shel B20W651.
 - b. ICI 1402 Dulux Pro Premium Acrylic Eggshell Interior Wall and Trim Paint.
 - c. PPG Speedhide Interior Enamel Eggshell, 6-411.
- B. Vinyl Acrylic Interior Flat Finish:
 - 1. Minimum Volume Solids: 32%.
 - 2. Maximum VOC: 50 g/L
 - 3. Sheen: 0-8 units at 85 degrees.
 - a. S-W ProGreen 200 Low VOC Flat B30-600 Series.
 - b. ICI 1200N Dulux Pro Premium Velvet Matte Flat Latex Interior Wall & Ceiling Paint.
 - c. PPG Wall Supreme Interior Flat High Build Wall Paint, 2-110.
- C. 100%, Acrylic, Interior Gloss Coating:
 - 1. Minimum Volume Solids: 34%.
 - 2. Maximum VOC: 150 g/L
 - 3. Sheen: 60-80 units at 60 degrees.
 - a. S-W Pro Industrial 0 VOC Acrylic Gloss, B66-600 Series.
 - b. ICI 3028 Dulux Pro Premium Interior/Exterior Acrylic Gloss Finish
or ICI 1508 Dulux Advanced Oil Interior/Exterior Gloss Wall & Trim Enamel.
 - c. PPG Manor Hall Interior/Exterior Gloss Acrylic Latex, 52-110.
- D. 100% Acrylic, Waterborne Eg-Shel Dryfall:
 - 1. Minimum Volume Solids: 30%.
 - 2. Maximum VOC: 150 g/L

3. Sheen: 0-8 units at 85 degrees.
 - a. S-W Waterborne Acrylic Dryfall B42W2.
 - b. ICI 1482 Spray Master Aquacrylic Dryfall Eggshell
 - c. PPG Speedhide Super Tech Flat-Eggshell 0-5 @60&85 Dry Fall, 6-725.

2.07 EXTRA STOCK

- A. Provide left over paint with Owner for touch-up purposes. At completion of project, provide one complete set of drawdowns in each maintenance manual with a schedule noting the locations each paint color was used. Refer to Section 01 78 39.

PART 3: EXECUTION

3.01 PREPARATION OF SURFACES

A. General

1. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
2. Do not start work until preparation specified in surface Section is completed.
3. Ensure surfaces are dry and adequately protected from dampness.
4. Thoroughly clean surfaces free of loose, rough and foreign substances which will affect adhesion or appearance of applied coats.
5. Remove mildew and neutralize surface.
6. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface applied protection before surface preparation and painting.
 - a. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
 - b. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
7. Complete repainting or refinishing will be required if coats are applied over improperly prepared surfaces.

B. Gypsum Board:

1. Fill minor irregularities with patching material and sand to smooth level surfaces taking care not to raise nap of paper.
2. Previously painted gypsum wallboards must be completely dry, smooth-sanded, clean and free of dust, dirt, powdery residue, grease, oil, wax or any other contaminants such as flaking or peeling paint before paint application is started. Treat or remove all contaminants and correct defects. Dull glossy old paint by light sanding or with a commercial deglosser/cleaner to assure maximum adhesion of the new coating. Patch holes and cracks with a latex patching compound, sand smooth and spot prime with the paint or enamel to be used as the final coat.

C. Plaster

1. Fill cracks, holes or imperfections with patching plaster and smooth off to match adjoining surfaces. Do not sandpaper.
2. In case of high alkali or lime conditions, neutralize with solution recommended by paint manufacturer.
3. Do not paint until moisture content of surface is 12% or below, except as may be required by paint manufacturer.
4. Previously painted plaster surfaces must be dry, clean, and free of dust, dirt, powder residue, grease, oil, wax or any other contaminants; free of flaking, crumbling or chalking conditions before paint application is started. Contaminants must be treated or removed. Defects corrected as necessary. Dull glossy old paints by light sanding or with deglosser/cleaner to assure maximum adhesion of the new coating. Remove any loose, chipped, peeling or blistered old paint by scraping and smooth sanding. If highly porous old paint needs reconditioning before receiving the new application, prime the entire surface with undercoater oil primer. Patch holes and cracks with latex patching compound per manufacturer's instructions after removing plaster as far back as necessary to reach firm areas. Spot prime patched areas with sealer-primer.

D. Formed Concrete

1. Remove all traces of form oil.
2. Do not paint until moisture content of surface is 15% or below except as may be required by paint manufacturer.
3. Previously painted surfaces must be free of grease, oil, wax or any other contaminants and loose or flaking paint. Clean concrete of oil and grease with detergent, hot water and vigorous scrubbing. All loose and peeling paint must be scraped or sand blasted back to sound adhesion.

E. Masonry

1. Do not paint until moisture content of surface is 15% or below except as may be required by paint manufacturer.
2. After prime coat is dry, fill remaining small holes, cracks and other defects with Swedish putty made by mixing dry spackle with prime paint.
3. Previously painted masonry surfaces must be dry, clean and free of dust, dirt and any other contaminants. Hard glossy surfaces are to be lightly sanded or dulled with deglosser/cleaner. Surfaces in poor condition must be prepared for repainting by removing loose paint and blisters by scraping, sanding or burning. Paint in these areas are to be removed at least 12 inches beyond the failing area. Patch all holes left after removal of nails, screws, and anchors. Prime before applying finish coats.

F. Ferrous or Galvanized Metal

1. Remove dirt and grease with mineral spirits or solvent recommended by paint manufacturer and clean cloths.
2. If prime coat is not smooth, sand to bare metal, reprime. Touch up scratched or abraided primer.
3. Previously painted metal must be dry, clean and free of contaminants. Hard and glossy surfaces are to be sanded lightly or dulled with deglosser/cleaner. Remove peeling, loose, chipped, and blistered paint and rust by scraping and sanding. Prime all sanded areas and areas devoid of paint with an all-purpose metal primer.

G. Aluminum:

1. Remove dirt and grease with mineral spirits or solvent recommended by paint manufacturer and clean cloths.

2. All chipped, peeling or blistered paint must be removed by hand or power tool cleaning. Remove all oil, grease, dirt or other foreign materials. Remove excessive chalking or sanding. Remove any mildew present by scrubbing with detergent and bleach. Thoroughly clean surface with water prior to repainting.

H. Concrete Floors:

1. To receive paint or non-slip paint: Shotblast floor to resemble 100 grit sandpaper. Fill cracks, voids, bug holes, gouges or divots with Crack Filler.

3.02 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Concrete: 12 percent
 2. Masonry: 12 percent
 3. Wood: 15 percent
 4. Gypsum Board: 12 percent
 5. Plaster: 12 percent
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.
- E. Conditions
 1. Do no work when surface, coating product, air temperature, humidity or dewpoint does not meet requirements of PROJECT CONDITIONS in Part 1 of this specification.
 2. Do no interior work until building is properly enclosed.
 3. Do work under adequate illumination and dust-free conditions.

3.03 APPLICATION

- A. Methods: Paint may be applied by brush, roller or spray methods except where particular method will produce unsatisfactory results. Where spray method is used on concrete block, follow with roller to work paint into voids.
- B. Materials: Do not open containers until required for use. Stir materials thoroughly and keep at uniform consistency during application.
- C. Coats
 1. Number specified is minimum. Provide sufficient number of coats to provide even, consistent, opaque coverage of substrate.
 2. Touch up suction spots between coats.
 3. Refinish surfaces affected by refitting work.
 4. Tint prime and under coats of paint approximately 1/2 to 3/4 depth of final color.

5. Touch up suction and "hot" spots in plaster and concrete after application of first coat and before second coat.
6. Do not apply next coat until previous is thoroughly dry.
7. Provide final coat which is solid and even in color; free from runs, laps, sags, brush marks, air bubbles and excessive roller stipple and worked into crevices, joint and similar areas.
8. Do not paint sealant / sealant joints.

3.04 SCHEDULE OF EXTERIOR WORK

- A. General: Do not paint brick, stucco, precast concrete, prefinished aluminum, sealant (unless scheduled to receive paint).
 1. New Work: Paint or finish all other new, unfinished, primed and factory painted surfaces, including all rooftop mechanical equipment, screen louvers, wall louvers (not factory-finished), miscellaneous metals, steel lintels and prefinished metal copings (color to match brick) occurring in brick as detailed.
 2. Existing Work: Prepare and paint all surfaces as noted on the drawings.
- B. Concrete, Stucco, Concrete Masonry Units, Fluted Block and Restored Masonry (except soffits):
 1. 1st Coat: 100% Acrylic Exterior Masonry Primer.
 - a. Minimum DFT: 8 mils.
 2. 2nd and 3rd Coat: 100% Acrylic Exterior Satin Coating.
 - a. Minimum DFT: 1.1 mils per coat.
- C. Zinc-coated Metal – Flashing, Decking, and Exposed Mechanical Including Rooftop Mechanical:
 1. Touch-up: Rust-inhibitive Waterborne Acrylic Primer.
 - a. DFT: 2.5-5.0 mils.
 2. 2nd and 3rd Coat: 100% Acrylic Exterior Satin Coating.
 - a. Minimum DFT: 1.3 mils per coat.
- D. Zinc-coated Metal – Doors, Frames and Handrails:
 1. Touch-up: Rust-inhibitive Waterborne Acrylic Primer.
 - a. DFT: 2.5-5.0 mils.
 2. 2nd and 3rd Coat: Non-blocking, 100% Acrylic Exterior Gloss Coating.
 - a. Minimum DFT: 1.3 mils per coat.
- E. Aluminum – Mill Finish (scheduled to be painted):
 1. 1st Coat: Rust-inhibitive Waterborne Acrylic Primer.
 - a. DFT: 2.5-5.0 mils.
 2. 2nd and 3rd Coat: Non-blocking, 100% Acrylic Exterior Gloss Coating.
 - a. Minimum DFT: 1.3 mils per coat.

3.05 SCHEDULE OF INTERIOR WORK

- A. General
 1. Paint complete all surfaces noted with a "PT" on Room Finish Schedule.

- a. New Work: In unscheduled areas, use paint type to match adjacent areas. In rooms with surfaces not scheduled for paint on Room Finish Schedule, paint hollow metal doors and frames, metal stairs and railings as occur.
 - b. Existing Areas:
 1. Remodeling work: In unscheduled areas with-in the construction limits, use paint type to match adjacent areas. In rooms with surfaces not scheduled for paint on Room Finish Schedule, paint hollow metal doors and frames, metal stairs and railings as occur.
 2. In unscheduled areas where patching has occurred, paint all walls corner to corner and floor to ceiling. Paint both sides of doors and frames at locations where replacement or modifications have been made.
 3. Provide specified finish on exposed surfaces including, but not limited to the following:
 - a. Prime coated mechanical units, piping, pipe covering, sprinkler piping, interior duct surfaces visible behind grilles, tanks without factory finish, radiation covers, cabinet unit heaters, exposed ductwork, louvers and grilles.
 - b. Electrical panel box covers and surface raceways (over factory finish), conduits and boxes and all factory primed electrical equipment.
 - c. Hollow metal doors and frames, steel stairs, ladders and railings, catwalks and safety mesh grilles, access panels, prime painted hardware, painted astragals and vision lite kits on doors, coiling grilles and doors (unless factory finished), metal supports for counters and exposed miscellaneous metals.
 4. Do not paint sealant.
 5. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 6. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- B. Concrete, Cement Plaster – Ceilings Without Exposed Mechanical:
1. 1st Coat: 100% Acrylic, Interior Alkali Resistant Primer.
 - a. Minimum DFT: 3.0 mils.
 2. 2nd and 3rd Coat: Vinyl Acrylic Interior Flat Finish.
 - a. Minimum DFT: 1.4 per coat.
- C. Concrete Masonry Units and Restored Masonry (not scheduled for epoxy):
1. 1st Coat: Vinyl Acrylic Blockfiller.
(1st Coat Option due to schedule constraints: 100% Acrylic Exterior Masonry Primer).
 - a. Minimum DFT: 8.0 mils (75-125 sq. ft./gal).
 2. 2nd and 3rd Coat: Vinyl Acrylic Interior Eggshell Finish.
 - a. Minimum DFT: 1.5 per coat.
- D. Gypsum Drywall – Wall (not scheduled for epoxy):
1. 1st Coat: 100% Acrylic Interior Primer.
 - a. Minimum DFT: 1.5 mils.
 2. 2nd and 3rd Coat: Vinyl Acrylic Interior Eggshell Finish.
 - a. Minimum DFT: 1.5 per coat.

E. Gypsum Drywall – Ceilings (not scheduled for epoxy):

1. 1st Coat: 100% Acrylic Interior Primer.
 - a. Minimum DFT: 1.5 mils.
2. 2nd and 3rd Coat: Vinyl Acrylic Interior Flat Finish.
 - a. Minimum DFT: 1.4 per coat.

F. Plaster – Walls (not scheduled for epoxy):

1. 1st Coat: 100% Acrylic, Interior Alkali Resistant Primer.
 - a. Minimum DFT: 3.0 mils.
2. 2nd and 3rd Coat: Vinyl Acrylic Interior Eggshell Finish.
 - a. Minimum DFT: 1.5 per coat

G. Plaster – Ceilings (not scheduled for epoxy):

1. 1st Coat: 100% Acrylic, Interior Alkali Resistant Primer.
 - a. Minimum DFT: 3.0 mils.
2. 2nd and 3rd Coat: Vinyl Acrylic Interior Flat Finish.
 - a. Minimum DFT: 1.4 per coat.

H. Wood – Painted:

1. 1st Coat: 100% Acrylic Interior Primer.
 - a. Minimum DFT: 1.5 mils.
2. 2nd and 3rd Coat: 100% Acrylic Interior Gloss Coating.
 - a. Minimum DFT: 1.3 mils per coat.

I. Wood – Transparent Finish:

1. 1st Coat: Wiping Stain.
 - a. Spreading Rate: As needed to match architect's sample.
2. 2nd and 3rd Coat: Waterborne Polyurethane Satin Varnish.
 - a. Minimum DFT: 0.8-1.1 mils per coat.

J. Ferrous Metal (not scheduled for epoxy):

1. Touch-up: Rust-inhibitive Waterborne Acrylic Primer
 - a. DFT: 2.0-5.0 mils.
2. 2nd and 3rd Coat: 100% Acrylic Interior Gloss Coating.
 - a. Minimum DFT: 1.3 mils per coat.

K. Zinc-coated Metal:

1. Touch-up: Rust-inhibitive Waterborne Acrylic Primer
 - a. DFT: 2.0-5.0 mils.
2. 2nd and 3rd Coat: 100% Acrylic Interior Gloss Coating.
 - a. Minimum DFT: 1.6 mils per coat.

L. Cotton or Canvas Covering Over Insulation (except exposed overhead work):

1. 1st Coat: 100% Acrylic Interior Primer.
 - a. Minimum DFT: 1.5 mils.
2. 2nd Coat: Vinyl Acrylic Interior Flat Finish.
 - a. Minimum DFT: 1.4 mils per coat.

M. Aluminum – Mill Finish (not scheduled for epoxy):

1. 1st Coat: 100% Acrylic Interior Gloss Coating.
 - a. Minimum DFT: 1.3 mils.
2. 2nd Coat: 100% Acrylic Interior Gloss Coating.
 - a. Minimum DFT: 1.3 mils.

N. Wall Surfaces Scheduled to Receive Vinyl Wallcovering or Wall Fabric:

1. 1st Coat: Wallcovering Primer
 - a. Minimum DFT: 1.2 mils.

O. Exposed Overhead Work:

1. Touch-up: Rust-inhibitive Waterborne Acrylic Primer.
 - a. DFT: 2.0-5.0 mils.
2. 2nd Coat: 100% Acrylic, Waterborne Eg-Shel Dryfall.
 - a. DFT: 2.1-4.5 mils.

P. Gypsum Drywall – Walls (scheduled to receive epoxy except showers):

1. 1st Coat: 100% Acrylic Interior Primer.
 - a. Minimum DFT: 1.5 mils.
2. 2nd and 3rd Coat: Two-component, Semi-Gloss Waterbased Catalyzed Epoxy.
 - a. DFT: 2.0-3.0 mils per coat.

Q. Concrete, Cement Plaster, and Gypsum or Veneer Plaster - Walls (scheduled to receive epoxy except showers):

1. 1st Coat: 100% Acrylic, Interior Alkali Resistant Primer.
 - a. Minimum DFT: 3.0 mils.
2. 2nd and 3rd Coat: Two-component, Semi-Gloss Waterbased Catalyzed Epoxy.
 - a. DFT: 2.0-3.0 mils per coat.

R. Concrete Masonry Units and Restored Masonry (scheduled to receive epoxy except showers):

1. 1st Coat: Vinyl Acrylic Blockfiller.
(1st Coat Option due to schedule constraints: 100% Acrylic Exterior Masonry Primer).
 - a. Minimum DFT: 8.0 mils.
2. 2nd and 3rd Coat: Two-component, Semi-Gloss Waterbased Catalyzed Epoxy.
 - a. DFT: 2.0-3.0 mils per coat.

3.06 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.07 FIELD QUALITY CONTROL

A. Testing and Painting Application: Owner reserves the right to test DFT of painted surfaces.

1. If testing discovers that DFT of installed paint does not meet specification, the Contract or will pay for initial and final testing and recoat surfaces until testing agency confirms specification is met.

END OF SECTION 09 91 00

Troy School District

Exterior Door Replacement

Bid 9672

	Peterson Glass Co.	Curtis Glass Co.	B & B Glass
BASE BID			
Barnard	\$ 5,200.00	\$ 6,400.00	\$ 8,552.00
Bemis	92,200.00	107,100.00	111,522.00
Costello	108,200.00	135,700.00	133,000.00
Hamilton	114,500.00	133,900.00	135,635.00
Martell	96,200.00	115,900.00	110,000.00
Troy Union	23,000.00	31,500.00	31,500.00
Wass	36,200.00	39,700.00	50,000.00
Wattles	51,000.00	59,400.00	67,000.00
Smith	21,200.00	25,200.00	32,000.00
Athens	224,000.00	263,100.00	254,500.00
Troy High	34,300.00	43,200.00	44,900.00
TOTAL	\$ 806,000.00	\$ 961,100.00	\$ 978,609.00
UNIT PRICES			
1 Door & Hardware	3,000.00	3,200.00	4,368.00
1 Opening, 1 Door	5,000.00	3,600.00	4,703.00
1 Opening, 2 Doors	8,000.00	7,200.00	9,400.00

Commercial Door & Hardware: No Response

Gamalski Building Specialties: No Response

Hicks Construction: No Response

IDN Hardware: No Response

Macomb Door & Hardware: No Response

North Mission Door: No Response

Padrone Dist: No Response

The Rayhaven Group: No Response

Tupper Door & Hardware: No Response

U.S. Steel Door & Mfg: No Response

Union Construction Services: No Response