Project Manual for Modified Bituminous Protected Membrane Roofing:

Kentucky Educational Development Corporation
KPC
904 Rose Road
Ashland, KY 41102

Mr. Andy Dotson, Chairman
Ms. Nancy Hutchinson, Chief Executive Officer

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KENTUCKY EDUCATIONAL DEVELOPMENT CORPORATION (KEDC)
904 ROSE ROAD, ASHLAND, KY 41102-7104
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www.kedc.org **or** www.kybuy.org

***** BID ANNOUNCEMENT * * ***

BID TYPE**:**	**PREFERRED VENDOR**
BID REFERENCE**:**	**PV-MBPMR-2018**
BID PUBLIC NOTICE DATE**:**	**August 29, 2018**
BID OPENING DATE, TIME**:**	**Thursday, September 13, 2018, 2:00 PM**
BID CONTRACT START DATE**:**	**Monday, October 1, 2018**
BID ITEMS:	**Modified Bituminous Protected Membrane Roofing**

BID PURPOSE: The Kentucky Educational Development Corporation (KEDC) Board of Directors, as the Legal Education Agency (LEA) for the Kentucky Purchasing Cooperatives (KPC) solicits a sealed bid for Modified Bituminous Protected Membrane Roofing that would, if accepted by the KEDC Board of Directors or its designee, establish a best value PREFERRED VENDOR BID CONTRACT per KRS.45A, with the specifications , standard terms and conditions as defined in this project manual. This bid contract is intended to provide member institutions (especially school districts) the right to contract to purchase goods and services at fixed prices from a specific list of items contained herein this project manual as part of the bid proposal. Said contracts shall hereinafter be referred to as the Bid Contract. Selected vendors shall be responsible for complying with all applicable Kentucky Board of Education regulations (especially 702 KAR 4:160 Capital Construction Process), and (through coordination with the Owner and its member institutions) insuring any necessary Architectural or Engineering Design services required by KRS 322.360, and other revised statutes are provided by the Owner and approved by the Kentucky Department of Education. Vendors shall also insure that any necessary approvals required by the Kentucky Department of Housing, Building and Construction are obtained prior to project initiation.

Kentucky Department of Education Version of AIA® Document A701™ – 1997

Instructions to Bidders

KENTUCKY DEPARTMENT OF EDUCATION
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Kentucky Department of Education Version of AIA Document A701™ – 1997

Instructions to Bidders

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

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

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

TABLE OF ARTICLES

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ARTICLE 1 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 Form of Proposal 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. The Base Bid shall include all labor, material, bonds, and the cost of all direct purchase orders for material to be purchased by the Owner

§ 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.

1. The submission of a Bid will be construed as evidence that a site visit and examination of local conditions have been made. Later claims for labor, equipment, or materials required or difficulties encountered which could have been foreseen had such an examination been made will not be recognized.

§ 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 (Not Used)

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§ 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 and Construction Manager (if utilized) 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 and Construction Manager (if utilized) at least seven days prior to the date for receipt of Bids.

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

§ 3.3 Substitutions

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

§ 3.3.2 No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

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

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

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to all who are known by the Architect and Construction Manager (if utilized) to have received a complete set of Bidding Documents.

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

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

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

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

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

§ 4.1.2 All blanks on the Form of Proposal 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.

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§ 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 Form of Proposal nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. The Bidder shall provide evidence of legal authority to perform within the jurisdiction of the Work. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.

§ 4.2 Bid Security

§ 4.2.1 Each Bid greater than $25,000 shall be accompanied by bid security in the form of a Bond provided by a Surety Company authorized to do business in the Commonwealth of Kentucky, or in the form of a certified check, and in an amount equal to at least five percent (5%) of the Base Bid amount, pledging that the Bidder will enter into a contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payments of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

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

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

§ 4.3 Submission of Bids

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

§ 4.3.2 Bids shall be deposited at the designated location prior to the time and date for receipt of Bids as indicated in the Advertisement or Invitation to Bid or any extensions thereof made by Addendum. Bids received after the closing time and date for receipt and opening of Bids will be rejected and returned to the Bidder unopened.

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

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

§ 4.4 Modification or Withdrawal of Bid

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

§ 4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date- and time-stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be so worded as not to reveal the amount of the original Bid.

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

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§ 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.

§ 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) [Reference: KRS 45A.365]

§ 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

§ 6.1.1 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.

§ 6.1.2 In determining the qualifications and responsibilities of the Bidder, the Owner shall take into consideration the Bidder's skill, experience, facility, previous work standing, financial standing, capacity and ability to handle work in addition to that in progress, and quality and efficiency of construction plant and equipment proposed to be used on the project.

§ 6.2 (Not Used)

§ 6.3 Submittals

§ 6.3.1 Each Bidder shall submit as part of the Form of Proposal a list of subcontractors proposed for each major branch of work itemized and described in the specifications for the Project. The Bidder's listing of a subcontractor for a work category certifies that the subcontractor has in current employment, skilled staff and necessary equipment to complete that category. The Architect and Construction Manager (if utilized) will evaluate the ability of all listed subcontractors to complete the work and notify the Owner. Listing of the Bidder as the subcontractor may invalidate the Bid should the Architect's and Construction Manager's (if utilized) review indicate the bidder does not have skilled staff and equipment to complete the work category at the time the Bid was submitted.

.1 Changing subcontractors from those listed with the Form of Proposal is prohibited unless the bidder provides grounds for such a change that are consistent with provisions of the Instructions to Bidders. Said change shall be accompanied by a written explanation from the Bidder as well as a written release from the listed subcontractor. All letters shall be on original company stationary with original signatures from an officer in the company legally approved to act for the company. An unjustifiable change of subcontractors may invalidate the Bid. Any change to a proposed person or entity shall be addressed as noted in Section 6.3.3 of these Instructions to Bidders

§ 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.

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§ 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.

§ 6.4 List of Materials, Suppliers, and Manufacturers

§ 6.4.1 Each Bidder shall submit a complete list of materials/equipment with supplier's and manufacturer's name in the form and manner indicated on the Form of Proposal and in compliance with materials and equipment specified.

§ 6.4.2 In addition to the list furnished with the Form of Proposal, the successful Bidder thereafter known as the Contractor, may be requested within thirty (30) calendar days after award of contract to furnish to the Architect and Construction Manager (if utilized) a more detailed and complete list of the materials and equipment, together with the manufacturer's or maker's name, brand and/or catalogue number, and product data or illustration thereof.

§ 6.4.3 Prior to the award of contract, the Architect and Construction Manager (if utilized) will make a preliminary check of the lists included with the Form of Proposal and advise the Bidder and the Owner of the acceptance thereof, and of such other actions as may be necessary in order to meet the requirements of the contract specifications. Should it develop that any of the materials or equipment named in the list do not meet the requirements of the project specifications, the Bidder shall be required to offer to the Owner other materials or equipment in compliance with the specifications at no change in contract price. Preliminary review and acceptance of the above list shall not relieve the Contractor of furnishing equipment and materials in accordance with the specifications.

§ 6.4.4 Written approval shall be obtained from the Architect regarding any material/equipment, supplier, and manufacturer substitution. Substitutions are permitted in the following instance:

.1 Failure to comply with contract requirements;
.2 Failure of the supplier or manufacturer to meet delivery schedules or other conditions of the contract;
.3 Written release by the supplier or manufacturer.

§ 6.4.5 The Owner reserves the right to reject the bid of any Bidder who fails to furnish the information required under Sections 6.3 and 6.4.

§ 6.5 Unit Prices

§ 6.5.1 Each Bidder shall submit as part of the Bid a list of unit prices as designated on the Form of Proposal.

§ 6.5.2 Unit prices are for changing or adjusting the scope or quantity of work from that indicated by the contract drawings and specifications.

§ 6.5.3 Unit prices shall include all labor, materials, equipment, appliances, supplies, overhead and profit.

§ 6.5.4 Only a single unit price per item shall be given and it shall apply for either more or less work than indicated or specified in the contract documents. In the event the contract is adjusted by unit prices, a change order shall be issued for the change and for the increased or decreased amount.

§ 6.5.5 Unit prices listed by the Bidder and accepted by the Owner shall apply to all phases of work whether the work is performed by the Bidder or by the Bidder's (Contractor's) subcontractors.

§ 6.5.6 For unit prices that apply to a lump sum Base Bid, the Owner reserves the right, prior to an award of contract, to negotiate, adjust and/or reject any price that is determined by the Architect, Construction Manager, or Owner to be excessive or unreasonable in amount.

§ 6.5.7 On line item total sum bids where Bidders are quoting firm unit prices for estimated quantities of units of work, the unit price is the Bid and is not subject to change, either by the Bidder or Owner. The Owner reserves the right to correct mathematical errors in extensions and additions by the Bidder. The Owner's corrected bid sum total shall take preference over the Bidder's computed bid sum total.

§ 6.6 Bid Division, Material Suppliers, and Purchase Orders

§ 6.6.1 This Section applies to projects with or without Bid Division (Multiple Prime Contracts), and those Projects that provide for direct purchase by the Owner of materials and equipment from Material Suppliers.

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§ 6.6.2 For Projects with Bid Division: General Construction and Concrete, Masonry, Plumbing, HVAC and Electrical Contractors shall provide with their Bid a breakdown of major material items (excluding sales tax). This breakdown shall include description of the item, name of the manufacturer, name of the supplier, and the amount of the supplier's quote. The Owner will issue Purchase Orders direct to the suppliers for these materials. The following shall be provided:

.1 Within four (4) days from the Bid Date, the low Bidder shall furnish to the Owner the list of material suppliers of the items listed on the bid breakdown, with authorization given to the Contractor to quote the materials listed and that the Supplier will furnish the listed materials to the Owner under the Owner's standard Purchase Order for the amount stated on the Contractor's bid breakdown. Failure of any Contractor to provide this written list of material suppliers with authorization will cause forfeiture of the bid security.

.2 The Contractor shall also guarantee to the Owner that materials listed in the breakdown to be purchased directly by the Owner shall comply with requirements of the Contract Documents and that the quantity of such material is sufficient to complete the Bid Division. The Performance and Payment Bonds required of the Contractor shall be in the combined amount of the materials designated in its bid to be acquired by Purchase Order by the Owner and all remaining items of cost in the respective Bid Division. Contractor shall provide an invoice from the supplier to the Owner with Contractor's Application for Payment.

.3 Material Suppliers will be paid the full amount of their invoices. Retainage that would otherwise be withheld from invoices submitted by and paid to a material supplier shall be withheld from the approved payment request of the Contractor. Refer to General Conditions for further requirements regarding retainage.

.a Lockers, Library, Kitchen, Shop, Technology, Science or other major equipment bid divisions shall provide with their Bid a breakout price for the material portions of the Bid (excluding sales tax). Award of contract will be based on the lump sum price of the accepted Bid that includes labor and materials. The Owner will issue a Purchase Order for the material and a contract for the labor and incidental materials. Retainage will be held on both the Purchase Order and the Contract in accordance with the General Conditions.

.b The language of the Bid Divisions is designed to outline and define the work in general to be included in a particular Bid Division and to prevent overlapping and conflicting requirements within other Bid Divisions. No Bidder shall use the omission of any item from this language as a basis for a claim for additional cost when such item is specified or indicated to be part of a complete and workable system.

.c It is the responsibility of the Bidder to determine which Bid Division or combination of Bid Divisions the Bidder desires to Bid.

§ 6.6.3 For Projects without Bid Division but with direct purchase by the Owner of materials and equipment from Material Suppliers, Contractors shall comply with paragraph 6.6.2 above as applicable to the Project. The Owner will issue Purchase Orders direct to the suppliers for these materials. Award of contract will be based on the lump sum price of the accepted bid that includes labor and materials. Retainage will be held on both the Purchase Orders and the Contract(s) in accordance with the General Conditions.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 Unless stipulated otherwise in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Bonds shall be executed by a surety company authorized to do business in Kentucky.

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

§ 7.2 Time of Delivery and Form of Bonds

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

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312™–2010, Performance Bond and Payment Bond — KDE Version. Both bonds shall be written in the amount of the Contract Sum, being the total of the Base Bid, as described in Section 1.5 herein, and all Alternates accepted by the Owner.

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

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

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101™–2007, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum — KDE Version, except for those Projects utilizing a Construction Manager the Agreement will be written on AIA Document A132™–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Advisor Edition — KDE Version. Owner-Contractor Agreements shall be valid only after written notice by the Kentucky Department of Education that the proposed Agreements are approved.

ARTICLE 9 PUBLIC WORKS ACT [Reference: KRS 337.505 to 337.550]

§ 9.1 Labor Regulations

§ 9.1.1 Work shall be performed in compliance with applicable provisions of the Kentucky Prevailing Wage Act on Public Works Projects, KRS 337.505 through KRS 337.550.

§ 9.1.2 Prevailing wage rates, included with the Bidding Documents, shall be paid on this Project if required under Section 10.1.1. The stipulated wage rates represent prevailing minimum wage rates of pay allowable and shall not be construed to mean that higher rates may not have to be paid in order to secure labor.

§ 9.1.3 Any Bidder and/or subcontract bidder in violation of any wage or work act provision (KRS 337.510 to KRS 337.550) and under citation by the Kentucky Department of Labor is prohibited by KRS 337.990 from bidding on or working on any and all public works contracts either in their name or in the name of any other company, firm, or other entity in which there is vested interest. No Bid shall be submitted by a prime Bidder or sub-bidder in violation of KRS Chapter 337. The responsibility of the qualifications of the sub-contract Bidder is solely that of the prime Bidder. The rejection of the subcontract Bidder and resubmittal of a qualified subcontract Bidder shall be addressed per the provisions of these Instructions to Bidders relating to subcontract Bidders (subcontractors) and materials.

§ 9.2 Davis-Bacon Act Provisions

Projects funded with Federal Funds shall comply with the Davis-Bacon Act (Subchapter IV of Chapter 31 of the Title 40 of the United States Code). Where the amount received from federal revenue sharing is less than 25 percent of the estimated total construction cost of a public school project, state law and not the federal applies to the wage rate and the prevailing wage scale to be used for the project (OAG 74-329). Refer to Supplementary Conditions for direction regarding application of federal rates, if included in the bidding documents, to this project. In the event both state and federal wage rates apply, the higher of the two rates shall be used to determine labor costs.

ARTICLE 10 TAXES

§ 10.1 Kentucky Sales and/or Use Tax [Reference KRS 139.495(1)]

Bidders are informed that construction contracts of the Commonwealth of Kentucky and political subdivisions are not exempt from the provisions of the Kentucky Sales and/or Use Tax, unless provisions are clearly noted in the bidding documents for the direct purchase of certain materials and equipment by the Owner. Materials and equipment which are to be submitted for direct purchase are as noted by the Architect or Construction Manager in the Form of Proposal and shall be limited to forty (40) items with a minimum price of $5,000 each. All other materials and equipment shall be included in the Contract Price and are subject to Kentucky Sales and/or Use Taxes. Current Sales and/or Use Tax shall be provided for and included in the bid amount as no adjustment will be permitted nor made after the receipt of bids.

§ 10.2 Federal Excise Tax

The Commonwealth of Kentucky and its political subdivisions are exempt from Federal Excise Tax.

ARTICLE 11 POST BID REVIEW AND MATERIAL SUBMITTAL

§ 11.1 Representative at Bid Opening

§ 11.1.1 Each prime Bidder shall have an authorized representative at the bid opening for submittal of the list of materials and equipment, and the post bid review which follows immediately after the opening and reading of bids.

§ 11.1.2 Following the opening of bids, the three (3) apparent low Bidders shall remain for a post-bid review, and shall submit a completed list of materials, equipment and suppliers within one (1) hour from the close of the reading of the bids. The list of materials and equipment shall be the listing contained in the Form of Proposal.

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§ 11.1.3 The post bid review, open to all bidders, will be conducted jointly with representatives of the Architect and Construction Manager (if utilized), Owner, and apparent low Bidder. Preliminary review will be directed toward Bidder's qualifications, list of subcontractors, list of materials and equipment, and unit prices.

ARTICLE 12 EQUAL EMPLOYMENT AND NONDISCRIMINATION

The Commonwealth of Kentucky and its political subdivisions are committed to equal job opportunities on public contracts and prohibited from discrimination based on race, creed, color, sex, age, religion, or national origin.

ARTICLE 13 CONFLICT OF INTEREST, GRATUITIES AND KICKBACKS, USE OF CONFIDENTIAL INFORMATION [Reference KRS 45A.455]

Conflict of Interest, Gratuities, Kickbacks, and Use of Confidential Information as described in KRS 45A.455 are expressly prohibited. Penalties for any violation under this statute are located in KRS 45A.990.

ARTICLE 14 KENTUCKY FAIRNESS IN CONSTRUCTION ACT OF 2007 [Reference KRS 371.400 to 371.425]

Projects constructed for school districts in the Commonwealth of Kentucky are subject to provisions of the Kentucky Fairness in Construction Act of 2007 as it relates to the right to litigate, the right to delay damages against the Owner, the right to file a mechanic's lien, prompt payment by Owners, amount of retainage that can be withheld and other provisions of the Act.

ARTICLE 15 KENTUCKY PREFERENCE LAW [Reference KRS 45A.490 to 45A.494]

§ 15.1 Projects constructed for school districts in the Commonwealth of Kentucky are subject to provisions of the reciprocal preference for Kentucky Preference for Resident Bidders law, KRS 45A.490 to KRS 45A.494. Reciprocal preference shall be given by public agencies to resident bidders.

§ 15.2 The Kentucky Finance and Administration Cabinet shall maintain a list of states that give to or require a preference for their own resident bidders, including details of the preference given to such bidders, to be used by public agencies in determining resident bidder preferences. The cabinet shall also promulgate administrative regulations in accordance with KRS Chapter 13A establishing the procedure by which the preferences required by this Section shall be given.

§ 15.3 The reciprocal preference as described in KRS 45A.490 to KRS 45A.494 above shall be applied in accordance with Kentucky Administrative Regulation 200 KAR 5:400.

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Supplemental Instructions to Bidders

1. BID FORMS AND RETURN INSTRUCTIONS: Bids must be received at the KEDC office at 904 Rose Road, Ashland, KY 41102-7104, not later than the above specified bid opening time and date. Clearly label all bids **PV-MBPMR-2018** on the outside of the bid package. **Faxed submissions will NOT be accepted. Bids received after the time designated for the bid opening will not be opened by KPC/KEDC**. KPC/KEDC and the Board of Education cannot assume responsibility for any delay as a result of failure of the mails or delivery services to deliver bids on time. (Please note that FED EX does not guarantee delivery time to KPC/KEDC because they classify KEDC as being in a rural area.)

   The bidder acknowledges that the bidder has read this invitation, understands it, and agrees to bind by its terms and conditions.

2. AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST AND COMPLIANCE WITH THE KENTUCKY MODEL PROCUREMENT CODE:

   I hereby swear or affirm under penalty of false swearing as provided by KRS 523.040:
   I am the bidder (if bidder is an individual), a partner in the bidder (if the bidder is a partnership), or an officer or employee of the bidding corporation having authority on its behalf (if the bidder is a corporation).
   The costs quoted in the bid response are correct and have been arrived at by the bidder independently and have been submitted without collusion and without agreement, understanding, or planned common course of action, with any vendor of materials, equipment, or services described in the invitation to bid, designed to limit independent bidding or competition.
   The contents of the bid or bids have not been communicated by the bidder, or its employees, or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bids and will not be communicated to any such person prior to the official opening of the bid or bids. Contractor certifies that this proposal is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a proposal for the same materials, supplies, or equipment, and is in all respects fair and without collusion or fraud. The contractor certifies that collusive bidding is a violation of federal law and can result in fines, prison sentences and civil damage awards.
   The Kentucky Educational Development Corporation collective bidding process is conducted consistent with KRS Chapter 45A:345 through 45A:460, the Model Procurement Code and that the contents of the bid proposal and the actions taken by the bidder in preparing and submitting the bid proposal are in compliance with above sections of the Model Procurement Code.
   The bidder is legally entitled to enter into contracts with agencies of the Commonwealth of Kentucky and is not in violation of any prohibited conflict of interest, gratuities and kickbacks including those prohibited by the provisions of the Model Procurement Code (KRS Chapter 45A).
   Any employee or official of KEDC or member institution, who shall take, receive, or offer to take or receive, either directly or indirectly, any rebate, percentage of contract, money, or things of value as an inducement or intended inducement, or in the procurement of business, or the giving of business, for or to or from, any person, or in open market seeking to make sales to the membership shall be deemed guilty of a felony and upon conviction such person or persons shall be subject to punishment or fine in accord with state and/or federal laws.

3. CERTIFICATION CONCERNING DISBARMENT AND SUSPENSION: I certify on behalf of myself, the company and its key employees that I, the company, or its key employees have not been proposed for debarment, debarred, or suspended by KPC, the Commonwealth of Kentucky, or any Federal Agency and are not listed on the Excluded Parties List System provided by the United States Government General Services Administration at www.epls.gov.

4. AWARD: After the review of the bid proposals, the KEDC Board or its designee may accept one or more bid contracts based criteria below and the needs of the members. In the case of identical bids, KEDC reserves the right to select and to award the contract by whatever method it chooses. If bidder's bid proposal is accepted, Bidder shall hereinafter be called contractor. The bid proposals will be evaluated based on the points awarded to each potential contractor utilizing the following scale subject to KRS 45A.490 to 45A.494, Reciprocal Preference for Resident Bidders. Item 1 below shall be prorated based on prices received; for instance the low price shall receive 50 points whereas the second lowest contractor who may be 10% higher, shall receive 45 points.

	POINTS
1. Total of weighted core package cost calculations	50
2. Listed Manufacturers and Installers Utilized	40
3. Past performance/Quality Assurance	10
POINT TOTAL	100

5. CONTRACT PERIOD: The contract period will end on **September 30, 2019** plus any extensions. The contract may be extended on an annual basis by KEDC not to exceed ten years in total including the first contract period. KEDC shall notify the contractor in writing of its intent to extend or not to extend the contract by August 1 of each year. If KEDC notifies contractor of intent to extend the contract by one year, contractor shall respond in writing by August 15 that it either does or does not intend to extend the contract. Any necessary price increases or decreases should be submitted in writing to KEDC by August 15 for the extended year. If price increases submitted are deemed excessive by KEDC then KEDC shall have cause to not extend the contract. Price change notifications will follow the same pattern as above for any years in which this contract is extended. KEDC reserves the right to extend the term for up to 180 days to continue a source of supply until new or replacement contracts are completed. Since this bid request is subject to multiple contracts being accepted, KEDC reserves the right to renew and/or solicit additional bids. Any contract extension is contingent upon written agreement of KEDC and the contractor. The bid will not be automatically extended beyond any current year unless expressly approved by KEDC. KEDC reserves the right on any contract extension to revise, update, or supplement the contract terms and conditions including the assessment of administrative fees to the contractor as needed to cover the cost of KEDC servicing the bid contract, bidding program, or procurement service for the members.

6. PAYMENTS, AND ADMINISTRATIVE FEE: **:** Each member shall be responsible for making payment to the contractor, unless KEDC has been established as the Purchasing Agent for the

contractor, in which case, KEDC will coordinate orders and payments directly to the contractor with the individual members being the ship to party. Normally, members pay bills only after approval from the member board, which meets monthly. KEDC reserves the right to negotiate upon mutual agreement to serve as Purchasing Agent for any Bid Contract including charging an additional administrative fee to the contractor beyond the two percent (2%) fee detailed below.

The contractor will be assessed an administrative fee of two percent (2%) on all purchases made by KPC members under this contract. The fee is to be included in the contractor's pricing, and cannot appear on the member's invoice. The contractor will remit payment to KEDC on a quarterly basis by the 25th day of the next month accompanied by an electronic sales report showing total amounts for all purchases made by members under this contract during the period of the bid.

Period	**Reporting and Payment Schedule**
January - March	April 25th
April - June	July 25th
July - September	October 25th
October - December	January 25th

The contractor will compile and provide to KEDC a quarterly report showing all purchases made by members under this contract in a format provided by KEDC. Contractor shall compile sales report by member district. The sales report shall be submitted electronically. Sales must be reported in the quarter in which the member is invoiced. It is the contractor's responsibility to track and report all purchases made by KPC members. All sales to KPC members are considered to be made under this contract unless the contractor holds an individual bid with the member. It is the vendor's responsibility to provide proof of individual bids.

KEDC will routinely request procurement data from participating KPC members to verify sales report accuracy. The contractor will make all administrative fee payments to KEDC by the 25th day of the succeeding month. All checks are to be made payable to KEDC and mailed to KEDC, 904 Rose Road, Ashland, KY 41102. In consideration of receiving a KPC PREFERRED VENDOR BID CONTRACT, bidder agrees to report and pay KEDC's administrative fees for all sales to KEDC/KPC districts even if orders are placed directly by the district to the contractor.

7. PRICING: Bid Contracts may be accepted from multiple bidders. Contract pricing and discounts shall remain in effect for the entire contract and any agreed upon contract extensions, however additional discounts and/or special pricing are encouraged and may be accepted when consistent with other terms and conditions of the contract and offered equally to all members. Price change notifications will follow the same pattern as above for any years in which this contract is extended. Additional discounts and/or special pricing are encouraged and may be accepted when

consistent with other terms and conditions of the contract and offered equally to all members. Accumulated or group orders may be requested by KPC during the course of the contract period.

All bid prices must include transportation and delivery charges to the location (school district, KEDC, etc.) specified during ordering. Fuel surcharges and other similar charges are not permitted. Replacement and/or supplemental products that meet or exceed the minimum bid requirements may be added to this contract at the sole discretion of KEDC. Replacement/supplemental products shall be offered at a discount equal to or greater than the original award. The contractor shall submit, on its letterhead the request to add products/services. The request shall be submitted by an authorized representative of the organization. KEDC is under no obligation to accept the offerings.

The bidder shall provide each item on this bid to all KPC members at the same price. Bidders **MAY NOT** submit multiple discount levels for the same product by KPC member (i.e., Regional Bidding is **NOT** permissible).

KPC reserves the right to accumulate orders among KPC members to obtain volume discounts for the group.

8. PROMPT PAYMENT DISCOUNT: Contractor may provide a prompt payment percentage discount for invoice payments postmarked less than 30 days from the invoice date. The discount may take the form of either a deduction from the total invoice or a check in an amount equal to the same. Example: 1% discount for payment of invoices postmarked within 10 days of the invoice date.

9. NON-ASSIGNABILITY OF AWARDED BID: The bid award will be made only to the individual or entity that actually submits a bid. The awarded bid cannot be conveyed to an awarded bidder's successors or assigns without the prior, express approval of the Board of Directors of KEDC or its designee.

10. DISTRIBUTION PARTNERS: The awarded bidder may elect to utilize Distribution Partners for the handling of orders, payments, distribution of products and other functions as agreed to by the KEDC Board or its designee. A list of Distribution Partners to include Entity Name, Contact Name, Address, Phone Number, Email, and proposed service area (list of KPC members to be served) must be submitted to KEDC and approved prior to processing orders. All Distribution Partners are bound by the terms and conditions set forth in this bid contract.

11. PARTICIPATING MEMBER INSTITUTIONS: Any institution that is a member of the Kentucky Purchasing Cooperative (KPC) - hereinafter referred to as member or members - is eligible to utilize the Bid Contract; however this does not mean that all members will participate. The successful bidder(s) will be required to serve all eligible members.

12. TRANSMITTAL OF ORDERS: KEDC shall issue purchasing guidelines to KPC members. The members will use formal purchase orders in ordering from the awarded bidder. The successful bidder acknowledges that orders from KPC members may be transmitted from KEDC's office on

the member's behalf. The successful bidder may use salespeople for in-person and/or telephone solicitation of orders in accordance with a mutually arrived schedule developed between the members and the awarded bidder.

13. PURCHASE OF ITEMS NOT SPECIFICALLY LISTED IN THE CORE ITEM LIST (SECONDARY ITEMS): KPC members may exercise their rights to purchase all catalog and special order items not in the Core Item list from the contractor that has been awarded the contract. Catalog and special order items shall be quoted at MSRP less a fixed percentage discount (per your bid) and shall be subject to the same auditing provisions as bid items. The initial price quote on catalog and special order items shall become the official bid price for the remainder of the bid contract.

14. DELIVERY CHARGES: **All products or services procured from the Bid Contract are to be delivered free of freight charges (FOB destination).** All bid prices must include transportation and delivery charges to the location (school district, KEDC, etc.) specified during ordering. Fuel surcharges and other similar charges are not permitted.

15. QUANTITIES: It shall be understood that the bid contract will not obligate KPC or its members to purchase from the Bid Contract.

16. ITEM SUBSTITUTION AND OUT-OF-STOCK BACK-ORDERS: No substitutions are allowed without prior written authorization from the member. Member must be notified if item is out of stock, backordered or if timely delivery cannot be made. Upon member notification, the contractor must receive written directions from the member on how to proceed, i.e. cancel, process, etc.

17. RETURNS: The successful bidder must provide a Return Material Authorization within 1 working day of the request by KPC member. Returned materials shall be restocked at no charge to the member (special order and custom crafted items excluded).

18. RECALLS: The contractor shall notify KPC and its members immediately of any products recalls. Any products that have been recalled and have been delivered shall be issued a credit and/or a comparable substitute immediately. All costs associated with voluntary and involuntary product recalls shall be borne by the awarded vendor.

19. PRODUCT EVALUATION: Samples requested must be furnished free of expense to KPC and KPC members for evaluation for a period of thirty (30) days. Samples shall be returned at the bidder's or bidder's Distribution Partner's expense.

20. PROMOTION: KPC actively markets all Prime and Preferred Vendors to member districts, which includes the company logo and contact information on the KPC website, a notice of the winning bid contract(s) sent to every KPC member, and promotion of all KPC Prime and Preferred Vendors during regular district visits by KPC staff. Vendors are expected to provide promotional materials and participate in regional conferences, district shows, and trainings.

21. CONTRACTOR COMMITMENT: Each contractor is required to make three basic commitments to insure the overall success of the statewide program:
    1. Corporate Commitment – A commitment that KPC has the support of senior management, and that KPC is the primary offering to K-12 educational entities statewide. The contractor shall make existing K-12 clients aware of the KPC contract and upon the member's request transitioned to the contractor's KPC contract.
    2. Pricing Commitment – A commitment that KPC pricing is the lowest available pricing (net to buyer) to KPC entities and a further commitment that, if a KPC entity is eligible for lower pricing through a state, regional, or local contract, the vendor will match the pricing under KPC.
    3. Sales Commitment – A commitment that the supplier will aggressively market KPC statewide and that the sales force will be trained, engaged, and committed to offering KPC to K-12 entities statewide with a further commitment that all KPC sales be accurately and timely reported to KPC.

22. PENALTY: The designated supplier(s) reciprocally agrees to provide total requirements as listed herein, thereby minimizing occurrences when a member may have to seek other interim product sources. Failure to deliver 100% of stock items -- within 10 business days -- shall be considered a default.

23. PRODUCT AND SAFETY INFORMATION: The successful bidder shall provide upon request by any member, the most recent MSDS information sheets for any products the vendor may deliver to said member. It is the vendor's responsibility to comply with all local, state, and federal regulations.

24. NOTICES: Notices under this Agreement are sufficient if given by nationally recognized overnight courier service, certified mail (return receipt requested), facsimile with electronic confirmation or personal delivery to the other party if given to the last known address. Notice is effective: (a) when delivered personally, (b) three business days after sending by certified mail, (c) on the business day after sending by a nationally recognized courier service, or (d) on the business day after sending by facsimile with electronic confirmation to the sender. A party may change its notice address by giving notice in accordance with this section.

25. SEVERABILITY: If any provision of this Agreement is determined by any court or governmental authority to be unenforceable, the parties intend that this Agreement be enforced as if the unenforceable provisions were not present and that any partially valid and enforceable provisions be enforced to the extent that they are enforceable.

26. NO WAIVER: A party does not waive any right under this Agreement by failing to insist on compliance with any of the terms of this Agreement or by failing to exercise any right hereunder. Any waivers granted hereunder are effective only if recorded in a writing signed by the party granting such waiver.

27. CUMULATIVE RIGHTS/CONSTRUCTION: The rights and remedies of the parties under this

Agreement are cumulative, and either party may enforce any of its rights or remedies under this Agreement or other rights and remedies available to it at law or in equity.

28. CONTRACTOR CERTIFICATION: Installation shall be under the direct supervision of an industry certified installer who must be present at all times when work is performed for any KPC member. **Proof of certification for all supervising installers must be submitted with the bid.** It is the responsibility of the contractor to notify KEDC of any changes to the certification status of their installers within 14 calendar days. Manufacturer certification programs may be accepted in lieu of industry certification at KEDC's discretion.

29. INSTALLATION: For all installation services provided under this bid the bidder agrees to complete all work within the guidelines set forth. KPC reserves the right to inspect all work performed under this contract. KPC will correct or require correction of substandard work at the bidder's expense.

    Substandard work is a default of the bid contract and grounds for immediate termination of the contract.

30. OTHER CONDITIONS:

    A. Contractors shall be in compliance and will comply with any and all local, state, and federal laws and regulations related to this bid and the rendering of goods and /or services.
    B. Contractor shall comply with all member requirements for background checks as outlined in KRS 160.380.
    C. This contract shall be governed in all respects as to validity, construction, capacity, performance, or otherwise by the laws of the Commonwealth of Kentucky.
    D. Any suit, action or other proceeding regarding the execution, validity, interpretation, construction, or performance of this agreement brought against KPC shall be filed in the Boyd County Circuit Court of the Commonwealth of Kentucky.
    E. Any suit, action or other proceeding regarding the execution, validity, interpretation, construction, or performance of this agreement brought against any participating member shall be filed in the member's local jurisdiction.
    F. Contractors providing services under this bid invitation, herewith assure KEDC they are conforming to the provisions of the Civil Rights Act of 1964 as amended.
    G. Kentucky Sales and Use Tax Certificate of Exemption Form will be issued upon request.
    H. Contractor shall provide access to the grantee, the sub grantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions (7 CFR § 3016.36).
    I. Contractor shall retain all required records for three years after grantees or sub grantees make final payments and all other pending matters are closed (7 CFR § 3016.36).
    J. In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability. To file a complaint of discrimination, write USDA, Director, Office of Civil

Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call (800) 795-3272 or (202) 720-6382 (TTY). USDA is an equal opportunity provider and employer.

K. Contractor is and shall remain in compliance with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR Chapter 60).

L. Contractor is and shall remain in compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR Part 3).

M. Contractor is and shall remain in compliance with the Davis-Bacon Act (40 U.S.C. 276a to 276a–7) as supplemented by Department of Labor regulations (29 CFR Part 5).

N. Contractor is and shall remain in compliance with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327–330) as supplemented by Department of Labor regulations (29 CFR Part 5).

O. Contractor is and shall remain in compliance with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 U.S.C.) 187 [h], Section 508 of the Clean Water Act (33 U.S.C. 1368, Executive Order 11738 and Environmental Protection Agency (EPA) regulations, (40 CFR Part 15), which prohibit the use under non-exempt federal contracts, grants or loans of facilities included in the EPA list of violated facilities.

P. Contractor is and shall remain in compliance with all mandatory standards and policies relating to energy efficiency contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94–163, 89 Stat. 871).

Q. By signing this document, the contractor certifies that this proposal is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a proposal for the same materials, supplies, or equipment, and is in all respects fair and without collusion or fraud. The contractor certifies that collusive bidding is a violation of federal law and can result in fines, prison sentences and civil damage awards.

R. Prohibition against conflicts of interest, gratuities, and kickbacks: Any employee or official of KEDC or member institution, elective or appointive, who shall take, receive, or offer to take or receive, either directly or indirectly, any rebate, percentage of contract, money, or things of value as an inducement or intended inducement, or in the procurement of business, or the giving of business, for or to or from, any person, or in open market seeking to make sales to the membership shall be deemed guilty of a felony and upon conviction such person or persons shall be subject to punishment or fine in accord with state and/or federal laws.

S. The bidder is legally entitled to enter into contracts with agencies of the Commonwealth of Kentucky and is not in violation of any prohibited conflict of interest, including those prohibited by provisions of KRS 164.390, KRS 61.092-61.096, and KRS 42.990.

T. The provisions of KRS 365.080 and KRS 365.090 which permit the regulation of resale price by contract, does not apply to sales to the State.

U. KEDC reserves the right to reject any and/or all bids and to waive informalities.

BG No. _____

Date: _____ To: (Owner) _____

Project Name: _____ Bid Package No. _____

City, County: _____

Name of Contractor: _____

Mailing Address: _____

Business Address: _____Telephone:_____

Having carefully examined the Instructions to Bidders, Contract Agreement, General Conditions, Supplemental Conditions, Specifications, and Drawings, for the above referenced project, the undersigned bidder proposes to furnish all labor, materials, equipment, tools, supplies, and temporary devices required to complete the work in accordance with the contract documents and any addenda listed below for the price stated herein.

Addendum _____ (Insert the addendum numbers received or the word "none" if no addendum received.)

BASE BID: For the construction required to complete the work, in accordance with the contract documents, I/We submit the following lump sum price of:

____See Pages 31- 44____
Use Figures

_____ Dollars & _____Cents
Use Words Use Words

ALTERNATE BIDS: (If applicable and denoted in the Bidding Documents)

For omission from or addition to those items, services, or construction specified in Bidding Documents by alternate number, the following lump sum price will be added or deducted from the base bid.

Alternate Bid No.	**Alternate Description**	**+ (Add to the Base Bid)**	**- (Deduct from the Base Bid)**	**No Cost Change** from the Base Bid)
Alt. Bid No. 1				☐
Alt. Bid No. 2				☐
Alt. Bid No. 3				☐
Alt. Bid No. 4				☐
Alt. Bid No. 5				☐
Alt. Bid No. 6				☐
Alt. Bid No. 7				☐
Alt. Bid No. 8				☐
Alt. Bid No. 9				☐
Alt. Bid No. 10				☐

A maximum of 10 Alternate Bids will be acceptable with each Base Bid. Do not add supplemental sheets for Alternate Bids to this document.

LIST OF PROPOSED SUBCONTRACTORS:

List on the lines below each major branch of work and the subcontractor involved with that portion of work. If the branch of work is to be done by the Contractor, so indicate.

The listing of more than one subcontractor in a work category shall invalidate the bid.

The listing of the bidder as the subcontractor for a work category certifies that the bidder has in current employment, skilled staff and necessary equipment to complete that category. The architect/engineer will evaluate the ability of all listed subcontractors to complete the work and notify the owner. Listing of the bidder as the subcontractor may invalidate the bid should the architect's review indicate bidder does not have skilled staff and equipment to complete the work category at the time the bid was submitted.

A maximum of 40 subcontractors will be acceptable with each bid. Do not add supplemental sheets for subcontractors to this document.

The bidder shall submit the list of subcontractors with the bid.

	BRANCH OF WORK (to be filled out by the Architect)	**SUBCONTRACTOR** (to be filled out by the contractor)
1.		
2.		
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	BRANCH OF WORK (to be filled out by the Architect)	**SUBCONTRACTOR** (to be filled out by the Contractor)
18.		
19.		
20.		
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LIST OF PROPOSED SUPPLIERS AND MANUFACTURERS:

List on the lines below each major material category for this project and the suppliers and manufacturers involved with that portion of work. Listing the supplier below means the Contractor is acknowledging authorization from the Supplier to include the Supplier in this bid.

The listing of more than one supplier or manufacturer in a material category shall invalidate the bid.

A maximum of 40 suppliers and manufacturers will be acceptable with each bid. Do not add supplemental sheets for suppliers to this document.

The bidder shall submit the list of suppliers and manufacturers within one (1) hour of the bid.

	MATERIAL DESCRIPTION BY SPECIFICATION DIVISION AND CATEGORY (to be filled out by the Architect or Contractor)	**SUPPLIER** (to be filled out by the Contractor)	**MANUFACTURER** (to be filled out by the Contractor)
1.			
2.			
3.			
4.			
5.			
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11.			
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18.			

	MATERIAL DESCRIPTION BY SPECIFICATION DIVISION AND CATEGORY (to be filled out by the Architect or Contractor)	**SUPPLIER** (to be filled out by the Contractor)	**MANUFACTURER** (to be filled out by the Contractor)
19.			
20.			
21.			
22.			
23.			
24.			
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UNIT PRICES: See Pages 31-44

Indicate on the lines below those unit prices to determine any adjustment to the contract price due to changes in work or extra work performed under this contract. The unit prices shall include the furnishing of all labor and materials, cost of all items, and overhead and profit for the Contractor, as well as any subcontractor involved. These unit prices shall be listed in units of work.

~~**A maximum of 40 unit prices will be acceptable with each bid. Do not add supplemental sheets for unit pricing to this document.**~~

~~**The bidder shall submit the list of unit prices within one (1) hour of the bid.**~~

	WORK (to be filled out by the Architect)	**PRICE / UNIT** (to be filled out by the Contractor)	**UNIT** (to be filled out by the Contractor)
1.			
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	WORK (to be filled out by the Architect)	**PRICE / UNIT** (to be filled out by the Contractor)	**UNIT** (to be filled out by the Contractor)
20.			
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DIRECT MATERIAL PURCHASES:

Indicate on the lines below those materials to be purchased directly by the Owner with a Purchase Order to be issued by the Owner to the individual suppliers. The value of the direct Purchase Order cannot be less than $5,000. Following the approval of bids, the Contractor shall formalize this list by completing and submitting the electronic Purchase Order Summary Form provided by KDE. Listing the supplier below means the Contractor is acknowledging authorization from the Supplier to include the Supplier in this bid.

A maximum of 50 POs will be acceptable with each bid. Do not add supplemental sheets for additional POs to this document.

The bidder shall submit the list of Purchase Orders within four (4) days of the bid.

	SUPPLIER (to be filled out by the Contractor)	**PURCHASE ORDER DESCRIPTION** (to be filled out by the Contractor)	**PURCHASE ORDER AMT.** (to be filled out by the Contractor)
1.			
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	SUPPLIER (to be filled out by the Contractor)	**PURCHASE ORDER DESCRIPTION** (to be filled out by the Contractor)	**PURCHASE ORDER AMT.** (to be filled out by the Contractor)
20.			
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	SUPPLIER (to be filled out by the Contractor)	**PURCHASE ORDER DESCRIPTION** (to be filled out by the Contractor)	**PURCHASE ORDER AMT.** (to be filled out by the Contractor)
45.			
46.			
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50.			

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS:

In the event that a bidder's proposal is accepted by the Owner and such bidder should fail to execute the contract within ten (10) consecutive days from the date of notification of the awarding of the contract, the Owner, at his option, may determine that the awardee has abandoned the contract. The bidder's proposal shall then become null and void, and the bid bond or certified check which accompanied it shall be forfeited to and become the property of the Owner as liquidated damages for failure to execute the contract.

The bidder hereby agrees that failure to submit herein above all required information and/or prices can cause disqualification of this proposal.

Submitted by:

NAME OF CONTRACTOR / BIDDER: _____

AUTHORIZED REPRESENTATIVE'S NAME: _____
Signature

AUTHORIZED REPRESENTATIVE'S NAME (printed): _____

AUTHORIZED REPRESENTATIVE'S TITLE: _____

NOTICE: Bid security must accompany this proposal if the Base Bid price is greater than of $25,000.

This form shall not be modified.

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
1	Roof scan	N/A	Written report of found results to be provided	>1,000 but <10,000	square foot	100 s.f.	
2	Roof scan	N/A	Written report of found results to be provided	>10,000 but <25,000	square foot	100 s.f.	
3	Roof scan	N/A	Written report of found results to be provided	>25,000 but <50,000	square foot	100 s.f.	
4	Roof scan	N/A	Written report of found results to be provided	>50,000 but <100,000	square foot	100 s.f.	
5	Roof scan	N/A	Written report of found results to be provided	>100,000	square foot	100 s.f.	
6	Complete roof tear-off	N/A	Complete tear-off of ballast, single ply roof membrane and maximum of 3" rigid insulation to expose roof deck	>1,000 but <10,000	square foot	100 s.f.	
7	Complete roof tear-off	N/A	Complete tear-off of ballast, single ply roof membrane and maximum of 3" rigid insulation to expose roof deck	>10,000 but <25,000	square foot	100 s.f.	
8	Complete roof tear-off	N/A	Complete tear-off of ballast, single ply roof membrane and maximum of 3" rigid insulation to expose roof deck	>25,000 but <50,000	square foot	100 s.f.	
9	Complete roof tear-off	N/A	Complete tear-off of ballast, single ply roof membrane and maximum of 3" rigid insulation to expose roof deck	>50,000 but <100,000	square foot	100 s.f.	
10	Complete roof tear-off	N/A	Complete tear-off of ballast, single ply roof membrane and maximum of 3" rigid insulation to expose roof deck	>100,000	square foot	100 s.f.	
11	Complete roof tear-off	N/A	Complete tear-off of single ply roof and maximum of 3” rigid insulation to expose roof deck	>1,000 but <10,000	square foot	100 s.f.	
12	Complete roof tear-off	N/A	Complete tear-off of single ply roof and maximum of 3” rigid insulation to expose roof deck	>10,000 but <25,000	square foot	100 s.f.	
13	Complete roof tear-off	N/A	Complete tear-off of single ply roof and maximum of 3” rigid insulation to expose roof deck	>25,000 but <50,000	square foot	100 s.f.	
14	Complete roof tear-off	N/A	Complete tear-off of single ply roof and maximum of 3” rigid insulation to expose roof deck	>50,000 but <100,000	square foot	100 s.f.	
15	Complete roof tear-off	N/A	Complete tear-off of single ply roof and maximum of 3” rigid insulation to expose roof deck	>100,000	square foot	100 s.f.	
16	Complete roof tear-off	N/A	Complete tear-off of coal tar pitch built up roof and maximum of 3” rigid insulation to expose roof deck	>1,000 but <10,000	square foot	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
17	Complete roof tear-off	N/A	Complete tear-off of coal tar pitch built up roof and maximum of 3" rigid insulation to expose roof deck	>10,000 but <25,000	square foot	100 s.f.	
18	Complete roof tear-off	N/A	Complete tear-off of coal tar pitch built up roof and maximum of 3" rigid insulation to expose roof deck	>25,000 but <50,000	square foot	100 s.f.	
19	Complete roof tear-off	N/A	Complete tear-off of coal tar pitch built up roof and maximum of 3" rigid insulation to expose roof deck	>50,000 but <100,000	square foot	100 s.f.	
20	Complete roof tear-off	N/A	Complete tear-off of coal tar pitch built up roof and maximum of 3" rigid insulation to expose roof deck	>100,000	square foot	100 s.f.	
21	Complete roof tear-off	N/A	Complete tear-off of built up asphalt roof membrane and maximum of 3" insulation to expose roof deck	>1,000 but <10,000	square foot	100 s.f.	
22	Complete roof tear-off	N/A	Complete tear-off of built up asphalt roof membrane and maximum of 3" insulation to expose roof deck	>10,000 but <25,000	square foot	100 s.f.	
23	Complete roof tear-off	N/A	Complete tear-off of built up asphalt roof membrane and maximum of 3" insulation to expose roof deck	>25,000 but <50,000	square foot	100 s.f.	
24	Complete roof tear-off	N/A	Complete tear-off of built up asphalt roof membrane and maximum of 3" insulation to expose roof deck	>50,000 but <100,000	square foot	100 s.f.	
25	Complete roof tear-off	N/A	Complete tear-off of built up asphalt roof membrane and maximum of 3" insulation to expose roof deck	>100,000	square foot	100 s.f.	
26	Complete roof tear-off	N/A	Complete tear-off modified bitumen roof membrane and maximum of 3" insulation to expose roof deck	>1,000 but <10,000	square foot	100 s.f.	
27	Complete roof tear-off	N/A	Complete tear-off modified bitumen roof membrane and maximum of 3" insulation to expose roof deck	>10,000 but <25,000	square foot	100 s.f.	
28	Complete roof tear-off	N/A	Complete tear-off modified bitumen roof membrane and maximum of 3" insulation to expose roof deck	>25,000 but <50,000	square foot	100 s.f.	
29	Complete roof tear-off	N/A	Complete tear-off modified bitumen roof membrane and maximum of 3" insulation to expose roof deck	>50,000 but <100,000	square foot	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
30	Complete roof tear-off	N/A	Complete tear-off modified bitumen roof membrane and maximum of 3" insulation to expose roof deck	>100,000	square foot	100 s.f.	
31	Complete roof tear-off	N/A	Complete tear-off polyurethane (PUF) roof maximum of 3" insulation to expose roof deck	>1,000 but <10,000	square foot	100 s.f.	
32	Complete roof tear-off	N/A	Complete tear-off polyurethane (PUF) roof maximum of 3" insulation to expose roof deck	>10,000 but <25,000	square foot	100 s.f.	
33	Complete roof tear-off	N/A	Complete tear-off polyurethane (PUF) roof maximum of 3" insulation to expose roof deck	>25,000 but <50,000	square foot	100 s.f.	
34	Complete roof tear-off	N/A	Complete tear-off polyurethane (PUF) roof maximum of 3" insulation to expose roof deck	>50,000 but <100,000	square foot	100 s.f.	
35	Complete roof tear-off	N/A	Complete tear-off polyurethane (PUF) roof maximum of 3" insulation to expose roof deck	>100,000	square foot	100 s.f.	
36	Wood Blocking Removal	N/A	Complete removal of existing wood blocking	unlimited	board foot	board foot	
37	New Wood Blocking	-	Installation of new treated wood blocking	unlimited	board foot	board foot	
38	New membrane over existing	20	Remove ballast, cut membrane into sections not more than 100 s.f., mechanically attach 1/2" wood fiber, install base sheet in hot asphalt, cap sheet in cold adhesive	>1,000 but <10,000	square foot	100 s.f.	
39	New membrane over existing	20	Remove ballast, cut membrane into sections not more than 100 s.f., mechanically attach 1/2" wood fiber, install base sheet in hot asphalt, cap sheet in cold adhesive	>10,000 but <25,000	square foot	100 s.f.	
40	New membrane over existing	20	Remove ballast, cut membrane into sections not more than 100 s.f., mechanically attach 1/2" wood fiber, install base sheet in hot asphalt, cap sheet in cold adhesive	>25,000 but <50,000	square foot	100 s.f.	
41	New membrane over existing	20	Remove ballast, cut membrane into sections not more than 100 s.f., mechanically attach 1/2" wood fiber, install base sheet in hot asphalt, cap sheet in cold adhesive	>50,000 but <100,000	square foot	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
42	New membrane over existing	20	Remove ballast, cut membrane into sections not more than 100 s.f., mechanically attach 1/2" wood fiber, install base sheet in hot asphalt, cap sheet in cold adhesive	>100,000	square foot	100 s.f.	
43	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation mechanically attached to existing metal roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>1,000 but <10,000	square foot	100 s.f.	
44	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation mechanically attached to existing metal roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>10,000 but <25,000	square foot	100 s.f.	
45	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation mechanically attached to existing metal roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>25,000 but <50,000	square foot	100 s.f.	
46	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation mechanically attached to existing metal roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>50,000 but <100,000	square foot	100 s.f.	
47	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation mechanically attached to existing metal roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>100,000	square foot	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
48	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation mechanically attached to red rosin paper and existing wood roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>1,000 but <10,000	square foot	100 s.f.	
49	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation mechanically attached to red rosin paper and existing wood roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>10,000 but <25,000	square foot	100 s.f.	
50	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation mechanically attached to red rosin paper and existing wood roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>25,000 but <50,000	square foot	100 s.f.	
51	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation mechanically attached to red rosin paper and existing wood roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>50,000 but <100,000	square foot	100 s.f.	
52	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation mechanically attached to red rosin paper and existing wood roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>100,000	square foot	100 s.f.	
53	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation adhered in hot asphalt to existing concrete roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>1,000 but <10,000	square foot	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
54	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation adhered in hot asphalt to existing concrete roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>10,000 but <25,000	square foot	100 s.f.	
55	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation adhered in hot asphalt to existing concrete roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>25,000 but <50,000	square foot	100 s.f.	
56	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation adhered in hot asphalt to existing concrete roof deck, 1/2" woodfiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>50,000 but <100,000	square foot	100 s.f.	
57	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation adhered in hot asphalt to existing concrete roof deck, 1/2" wood fiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>100,000	square foot	100 s.f.	
58	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation adhered in hot asphalt to mechanically fastened base sheet to existing gypsum or LWIC roof deck, 1/2" wood fiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>1,000 but <10,000	square foot	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
59	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation adhered in hot asphalt to mechanically fastened base sheet to existing gypsum or LWIC roof deck, 1/2" wood fiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>10,000 but <25,000	square foot	100 s.f.	
60	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation adhered in hot asphalt to mechanically fastened base sheet to existing gypsum or LWIC roof deck, 1/2" wood fiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>25,000 but <50,000	square foot	100 s.f.	
61	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation adhered in hot asphalt to mechanically fastened base sheet to existing gypsum or LWIC roof deck, 1/2" wood fiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>50,000 but <100,000	square foot	100 s.f.	
62	All new roof system	20	New roof system consisting of 2 layers of 2.5" polyisocyanurate insulation adhered in hot asphalt to mechanically fastened base sheet to existing gypsum or LWIC roof deck, 1/2" wood fiber recovery board placed in hot asphalt, base ply in hot asphalt and cap sheet in cold adhesive	>100,000	square foot	100 s.f.	
63	All new roof system	20	New roof system consisting of R-25 NVS LWIC to acceptable substrate, mechanically fastened base sheet over new LWIC, base ply in hot asphalt and cap sheet in cold adhesive	>1,000 but <10,000	square foot	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
64	All new roof system	20	New roof system consisting of R-25 NVS LWIC to acceptable substrate, mechanically fastened base sheet over new LWIC, base ply in hot asphalt and cap sheet in cold adhesive	>10,000 but <25,000	square foot	100 s.f.	
65	All new roof system	20	New roof system consisting of R-25 NVS LWIC to acceptable substrate, mechanically fastened base sheet over new LWIC, base ply in hot asphalt and cap sheet in cold adhesive	>25,000 but <50,000	square foot	100 s.f.	
66	All new roof system	20	New roof system consisting of R-25 NVS LWIC to acceptable substrate, mechanically fastened base sheet over new LWIC, base ply in hot asphalt and cap sheet in cold adhesive	>50,000 but <100,000	square foot	100 s.f.	
67	All new roof system	20	New roof system consisting of R-25 NVS LWIC to acceptable substrate, mechanically fastened base sheet over new LWIC, base ply in hot asphalt and cap sheet in cold adhesive	>100,000	square foot	100 s.f.	
68	PMMA Liquid Roof Membrane in lieu of cap sheet	20	Apply PMMA equal to Parapro Roof Membrane in lieu of cap sheet over the hot applied SBS base sheet.	>1,000 but <10,000	square feet	100 s.f.	
69	PMMA Liquid Roof Membrane in lieu of cap sheet	20	Apply PMMA equal to Parapro Roof Membrane in lieu of cap sheet over the hot applied SBS base sheet.	>10,000 but <25,000	square feet	100 s.f.	
70	PMMA Liquid Roof Membrane in lieu of cap sheet	20	Apply PMMA equal to Parapro Roof Membrane in lieu of cap sheet over the hot applied SBS base sheet.	>25,000 but <50,000	square feet	100 s.f	
71	PMMA Liquid Roof Membrane in lieu of cap sheet	20	Apply PMMA equal to Parapro Roof Membrane in lieu of cap sheet over the hot applied SBS base sheet.	>50,000 but <100,000	square feet	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
72	PMMA Liquid Roof Membrane in lieu of cap sheet	20	Apply PMMA equal to Parapro Roof Membrane in lieu of cap sheet over the hot applied SBS base sheet.	>100,000	Square feet	100 s.f.	
73	Single-ply roof system	10	New roof system consisting of ½" recovery board placed in hot asphalt or mechanically attached and Paradiene 40FR cap sheet in cold adhesive	>1,000 but <10,000	square foot	100 s.f.	
74	Single-ply roof system	10	New roof system consisting of ½" recovery board placed in hot asphalt or mechanically attached and Paradiene 40FR cap sheet in cold adhesive	>10,000 but <25,000	square foot	100 s.f.	
75	Single-ply roof system	10	New roof system consisting of ½" recovery board placed in hot asphalt or mechanically attached and Paradiene 40FR cap sheet in cold adhesive	>25,000 but <50,000	square foot	100 s.f.	
76	Single-ply roof system	10	New roof system consisting of ½" recovery board placed in hot asphalt or mechanically attached and Paradiene 40FR cap sheet in cold adhesive	>50,000 but <100,000	square foot	100 s.f.	
77	Single-ply roof system	10	New roof system consisting of ½" recovery board placed in hot asphalt or mechanically attached and Paradiene 40FR cap sheet in cold adhesive	>100,000	square foot	100 s.f.	
78	Liquid roof membrane Coating	10 Year Material Warranty	Apply an Energy Star PMMA coating over an existing smooth built up, SBS modified bitumen, PVC, or Hypalon	>1,000 but <10,000	square foot	100 s.f.	
79	Liquid roof membrane Coating	10 Year Material Warranty	Apply an Energy Star PMMA coating over an existing smooth built up, SBS modified bitumen, PVC, or Hypalon	>10,000 but <25,000	square foot	100 s.f.	
80	Liquid roof membrane Coating	10 Year Material Warranty	Apply an Energy Star PMMA coating over an existing smooth built up, SBS modified bitumen, PVC, or Hypalon	>25,000 but <50,000	square foot	100 s.f.	
81	Liquid roof membrane Coating	10 Year Material Warranty	Apply an Energy Star PMMA coating over an existing smooth built up, SBS modified bitumen, PVC, or Hypalon	>50,000 but <100,000	square foot	100 s.f.	
82	Liquid roof membrane Coating	10 Year Material Warranty	Apply an Energy Star PMMA coating over an existing smooth built up, SBS modified bitumen, PVC, or Hypalon	>100,000	square foot	100 s.f.	
83	Tectum Deck Removal	N/A	Complete removal of existing Tectum Deck	>1,000 but <10,000	square foot	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
84	Tectum Deck Removal	N/A	Complete removal of existing Tectum Deck	>10,000 but <25,000	square foot	100 s.f.	
85	Tectum Deck Removal	N/A	Complete removal of existing Tectum Deck	>25,000 but <50,000	square foot	100 s.f.	
86	Tectum Deck Removal	N/A	Complete removal of existing Tectum Deck	>50,000 but <100,000	square foot	100 s.f.	
87	Tectum Deck Removal	N/A	Complete removal of existing Tectum Deck	>100,000	square foot	100 s.f.	
88	Tectum Deck Repair		Repair a Tectum Deck	N/A	square foot	100 s.f.	
89	Concrete Deck Removal	N/A	Complete removal of existing Concrete Deck	>1,000 but <10,000	square foot	100 s.f.	
90	Concrete Deck Removal	N/A	Complete removal of existing Concrete Deck	>10,000 but <25,000	square foot	100 s.f.	
91	Concrete Deck Removal	N/A	Complete removal of existing Concrete Deck	>25,000 but <50,000	square foot	100 s.f.	
92	Concrete Deck Removal	N/A	Complete removal of existing Concrete Deck	>50,000 but <100,000	square foot	100 s.f.	
93	Concrete Deck Removal	N/A	Complete removal of existing Concrete Deck	>100,000	square foot	100 s.f.	
94	Concrete Deck Repair	N/A	Repair a concrete deck	N/A	square foot	100 s.f.	
95	Steel Deck Removal	N/A	Complete removal of existing steel deck and install new steel decking	>1,000 but <10,000	square foot	100 s.f.	
96	Steel Deck Removal	N/A	Complete removal of existing steel deck and install new steel decking	>10,000 but <25,000	square foot	100 s.f.	
97	Steel Deck Removal	N/A	Complete removal of existing steel deck and install new steel decking	>25,000 but <50,000	square foot	100 s.f.	
98	Steel Deck Removal	N/A	Complete removal of existing steel deck and install new steel decking	>50,000 but <100,000	square foot	100 s.f.	
99	Steel Deck Removal	N/A	Complete removal of existing steel deck and install new steel decking	>100,000	square foot	100 s.f.	
100	Steel Deck Repair	N/A	Repair a steel deck	N/A	square foot	100 s.f.	
101	Wood Deck Removal	N/A	Complete removal of existing wood deck and install new wood decking	>1,000 but <10,000	square foot	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
102	Wood Deck Removal	N/A	Complete removal of existing wood deck and install new wood decking	>10,000 but <25,000	square foot	100 s.f.	
103	Wood Deck Removal	N/A	Complete removal of existing wood deck and install new wood decking	>25,000 but <50,000	square foot	100 s.f.	
104	Wood Deck Removal	N/A	Complete removal of existing wood deck and install new wood decking	>50,000 but <100,000	square foot	100 s.f.	
105	Wood Deck Removal	N/A	Complete removal of existing wood deck and install new wood decking	>100,000	square foot	100 s.f.	
106	Wood Deck Repair	N/A	Repair a wood deck	N/A	Square foot	100 s.f.	
107	Light-Weight Concrete Deck Removal	N/A	Complete removal of existing light-weight concrete and install new lightweight concrete	>1,000 but <10,000	square foot	100 s.f.	
108	Light-Weight Concrete Deck Removal	N/A	Complete removal of existing light-weight concrete and install new lightweight concrete	>10,000 but <25,000	square foot	100 s.f.	
109	Light-Weight Concrete Deck Removal	N/A	Complete removal of existing light-weight concrete and install new lightweight concrete	>25,000 but <50,000	square foot	100 s.f.	
110	Light-Weight Concrete Deck Removal	N/A	Complete removal of existing light-weight concrete and install new lightweight concrete	>50,000 but <100,000	square foot	100 s.f.	
111	Light-Weight Concrete Deck Removal	N/A	Complete removal of existing light-weight concrete and install new lightweight concrete	>100,000	square foot	100 s.f.	
112	Light-Weight Concrete Deck Removal	N/A	Repair existing Light-weight Concrete Deck	N/A	square foot	100 s.f.	
113	Gypsum Deck Removal	N/A	Complete removal of existing Gypsum Deck	>1,000 but <10,000	square foot	100 s.f.	
114	Gypsum Deck Removal	N/A	Complete removal of existing Gypsum Deck	>10,000 but <25,000	square foot	100 s.f.	
115	Gypsum Deck Removal	N/A	Complete removal of existing Gypsum Deck	>25,000 but <50,000	square foot	100 s.f.	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
116	Gypsum Deck Removal	N/A	Complete removal of existing Gypsum Deck	>50,000 but <100,000	square foot	100 s.f.	
117	Gypsum Deck Removal	N/A	Complete removal of existing Gypsum Deck	>100,000	square foot	100 s.f.	
118	Gypsum Deck Repair	N/A	Repair existing Gypsum deck	N/A	square foot	100 s.f.	
119	Wet Insulation	-	Remove existing wet insulation as determined from roof scan and replace with specified product	unlimited	square foot	square foot	
120	Roof Removal	-	Remove two roofs from existing assembly	unlimited	square foot	square foot	
121	Tapered Insulation	-	¼" per ft tapered insulation system with a ½" minimum start	unlimited	board foot	board foot	
122	Core Cuts	-	Core cut thru entire membrane to roof deck, identify type and thickness of materials, install sealant in void	unlimited	each	each	
123	Walk Pads	-	Provide and install walkway pads	unlimited	square foot	square foot	
124	Expansion Joint	-	Provide and install bellows type building expansion joint	unlimited	lineal foot	lineal foot	
125	Wall Flashing	-	Install 12" wall flashing using aluminum clad SBS modified bitumen	unlimited	lineal foot	Per 10 lineal foot	
126	Gravel Stop Drip Edge	-	24 gauge gravel stop drip edge with a Kynar finish (standard color) and a 6" face	unlimited	lineal foot	lineal foot	
127	Coping	-	24 gauge metal coping with a Kynar finish (standard color), 12" wide with a continuous cleat	unlimited	lineal foot	lineal foot	
128	Coping	-	22 gauge metal coping with a Kynar finish (standard color), 12" wide with a continuous cleat	unlimited	lineal foot	lineal foot	
129	Counter Flashing	-	24 gauge metal counter flashing with a Kynar finish (standard color), 4" face	unlimited	lineal foot	lineal foot	
130	Counter Flashing	-	22 gauge metal counter flashing with a Kynar finish (standard color), 4" face	unlimited	lineal foot	lineal foot	
131	Counter Flashing	-	16 oz copper counter flashing, 4" face	unlimited	lineal foot	lineal foot	
132	Thru-wall Scupper	-	24 gauge metal thru-wall scupper with a Kynar finish (standard color) 8"	unlimited	lineal foot	lineal foot	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
133	Thru-wall Scupper	-	22 gauge metal thru-wall scupper with a Kynar finish (standard color) 8”	unlimited	lineal foot	lineal foot	
134	Conductor Head	-	24 gauge metal conductor head with a Kynar finish (standard color)	unlimited	lineal foot	lineal foot	
135	Conductor Head	-	22 gauge metal conductor head with a Kynar finish (standard color)	unlimited	lineal foot	lineal foot	
136	Box Gutter	-	24 gauge metal 7” box gutter with a Kynar finish (standard color)	unlimited	lineal foot	lineal foot	
137	Box Gutter	-	22 gauge metal 7” box gutter with a Kynar finish (standard color)	unlimited	lineal foot	lineal foot	
138	Down Spouts	-	24 gauge metal 4” x 4” down spouts with a Kynar finish (standard color)	unlimited	lineal foot	lineal foot	
139	Down Spouts	-	22 gauge metal 4” x 4” down spouts with a Kynar finish (standard color)	unlimited	lineal foot	lineal foot	
140	Wall Panels	-	24 gauge metal box rib wall panel 36” wide with a Kynar finish	unlimited	square foot	square foot	
141	Insulated Metal Wall Panels	-	24 gauge insulated metal wall panel with a Kynar finish	unlimited	square foot	square foot	
142	Raise Thru-wall flashing	-	Cut out 3 rows of brick and install new 16 oz (minimum) copper thru-wall flashing and install new brick to match existing	unlimited	lineal foot	lineal foot	
143	Repoint Deteriorated Mortar Joints	-	Remove deteriorated mortar joint and repoint to match existing joint	unlimited	lineal foot	lineal foot	
144	Masonry Waterproofing	-	Clean existing masonry and install a waterproofing/ damp proofing	unlimited	lineal foot	lineal foot	
145	Replacing Masonry	-	Removing existing masonry and replace with new to match existing	unlimited	square foot	Square foot	
146	Lead Pipe Flashing	-	Install 4” lead pipe flashing	unlimited	piece	each	
147	Curb Flashing	-	Install 4’ x 6’ curb flashing using aluminum clad SBS modified bitumen	unlimited	piece	each	
148	Penetration flashing	-	Install PMMA liquid applied flashing around 4”-6” pipe	unlimited	piece	each	
149	Drain Flashing	-	Install 4” lead drain flashing	unlimited	piece	each	
150	Drain Strainer	-	Install new cast iron drain strainer	unlimited	piece	each	

Item #	Item	Warranty Period	Comments	Quantity	Measuring Unit	Units	Total cost $ (bidder to enter)
151	25 Year Warranty	-	Provide a 25 Year Warranty	unlimited	square foot	square foot	
152	30 Year Warranty	-	Provide a 30 Year Warranty	unlimited	square foot	square foot	
153	Roof Increase	-	Provide premium percent increase (for items 33-37 if any) for roofs with 2 levels.	-	square foot	-	
154	Roof Increase	-	Provide premium percent increase (for items 33-37 if any) for roofs with 3 levels.	-	square foot	-	
155	Roof Increase	-	Provide premium percent increase (for items 33-37 if any) for roofs with more than 3 levels.	-	square foot	-	
156	Travel	-	Unit price for traveling over 50 miles per man day	-	day	day	
157	Traffic Membrane	10 Year Warranty	PMMA Unreinforced Traffic System	unlimited	square foot	100 s.f.	
158	Traffic Membrane	10 Year Warranty	PMMA Reinforced Traffic System	unlimited	square foot	100 s.f.	
159	STP Liquid metal roof membrane	10 Year Warranty	Silane terminated polymer liquid metal roof membrane system for steep slope roofs	unlimited	square foot	100 s.f.	
160	STP Liquid metal roof membrane	15 Year Warranty	Silane terminated polymer liquid metal roof membrane system for steep slope roofs	unlimited	square foot	100 s.f.	
161	STP Liquid metal roof membrane	20 Year Warranty	Silane terminated polymer liquid metal roof membrane system for steep slope roofs	unlimited	square foot	100 s.f.	

Bidders shall provide a history of a minimum of 10 past bid projects of specified systems at or above 40,000 square feet in area. Include total construction cost, square foot area of roof and date of bid. Provide at least one price and area for each the following:

1. Modified Bitumen system over R-25 polyisosyanurate insulation as specified
2. Modified Bitumen over R-25 Lightweight concrete fill as specified.
3. Provide at least 2 prices and costs for reroofing projects that include removal of existing roof systems.(please specify existing roof system)

Kentucky Department of Education
702 KAR 4:160

Purchase Order Summary Form

BG# _____ **Date Submitted** _____

Delivery Method

☐ GC ☐ GESC ☐ CM

PO Certification Statement Phase

☐ Initial Statement ☐ Final Statement ☐ Change Order Stmt.

District Code _____ **District Name** _____

School Code _____ **Facility Name** _____

Contractor Name	PO Number	Bid. Pack. #	Specification Section No.	Purchase Order Description	Vendor Name	Initial PO Amount	Change Order Amount To Date	Reason For Change	Final PO Amount
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									-
					Initial PO Total	$ -	$ -	**Final PO Total**	$ -

All signatures below are required based upon the appropriate PO certification statement phase. (Initial / Final)

Initial Certification Statement

To the best of my knowledge, I certify that all materials listed within this document will be purchased in accordance with 103 KAR 26:070 and 702 KAR 4:160.

Owner's Signature Date

General Contractor's / Construction Manager's Sign Date

Architect's Signature Date

Final Certification Statement

To the best of my knowledge, I certify that all materials listed within this document have been purchased in accordance with 103 KAR 26:070 and 702 KAR 4:160.

Owner's Signature Date

General Contractor's / Construction Manager's Signature Date

Architect's Signature Date

DIVISION 01 - GENERAL REQUIREMENTS

01 11 00	**SUMMARY OF THE WORK**	
	01 11 13	Work in Contract
	01 14 13	Access to and use of Site
01 26 00	**CONTRACT MODIFICATION AND PROCEDURES**	
	01 26 19	Clarification Notice
	01 26 33	Minor Changes in the Work
	01 26 63	Change Orders
01 29 00	**PAYMENT PROCEDURES**	
	01 29 76	Progress Payment Procedures
01 31 00	**PROJECT MANAGEMENT AND COORDINATION**	
	01 31 13	Project Coordination
01 32 00	**CONSTRUCTION PROGRESS DOCUMENTATION**	
	01 32 16	Construction Timeline Progress Schedule
01 33 00	**SUBMITTAL PROCEDURES**	
	01 33 23	Submittal Procedures
01 41 00	**REGULATORY REQUIREMENTS**	
	01 41 13	Regulatory Requirements
01 42 00	**REFRENCES**	
	01 42 13	References
01 54 00	**CONSTRUCTION AIDS**	
	01 54 12	Temporary Facilities, Controls, & Construction Aids
01 62 00	**PRODUCT OPTIONS**	
	01 62 10	Product Options
01 73 00	**EXECUTION**	
	01 73 19	Installation
01 74 00	**CLEANING AND WASTE MANAGEMENT**	
	01 74 13	Cleaning
01 78 00	**CLOSEOUT SUBMITTALS**	
	01 78 10	Closeout Submittals and Procedures

01 11 13

WORK IN CONTRACT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Work included in but not limited to this section

1. Providing all labor, equipment, and materials to complete the installation of SBS Modified Roof Membrane.
2. The work may consist of removal of existing roofing materials, installation of roof insulation, sheet metal, sealants and other roofing materials defined herein and identified in the contract unit prices.

RELATED SECTIONS

A. All Divisions and Sections included in the Project Manual

SCHEDULING

A. Normal working hours shall be from 7:00 a.m. to 6:00 p.m., Monday through Friday. Requests for additional work shall require written approval from the Owner 7 days in advance of the proposed work period.".

1.2 EXISTING WORK

A. .Protect existing vegetation, structures, equipment, utilities, pavement and improvements as required.

B. Remove or alter existing work in such a manner to prevent injury or damage to any portions of the existing work which remain.

C. Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as approved by the Architect. At the completion of operations, existing work shall be in a condition equal to or better than that which existed before new work started.

1.3 QUALITY ASSURANCE

A. Pre-installation Meeting

1. See Section 01 33 23 Submittal Procedures
2. See each Section for individual Agendas

B. Quality Assurance/Control submittals are design data, test reports, certificates, manufacturer's instructions, manufacturer's field reports and other documentary data affirming quality of products and installations.

1. Submit 2 copies to Architect immediately upon receipt.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Coordinate with Owner requirements.

1.5 PROJECT CONDITIONS

A. Coordinate with Owner requirements.

1.6 WARRANTY

A. Provide specified warranty to the Architect for review and approval.

B. Requests for substitutions will be considered in accordance with provisions of Section 00 43 25.

PART 2 EXECUTION

2.1 EXAMINATION

A. Prior to installation, have roof manufacturer examine existing conditions to verify they are suitable to project requirements and best roofing practices.

B. Identify safety measures and possible risks.

2.2 INSTALLATION

A. Install according to manufacturers' requirements.

2.3 PROTECTION

A. Provide temporary proper watertight protection for roofing under construction at all times.

END OF SECTION

01 14 13

ACCESS TO AND USE OF SITE

PART 3 GENERAL

3.1 SECTION INCLUDES

A. Work included in but not limited to this section.

1. Access to Use of Site

3.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

1.3 EXISTING WORK

A. Protect existing vegetation, structures, equipment, utilities, pavement and improvements.

B. Repair or replace portions of existing work which have been altered or damaged during construction operations to match existing or adjoining work. At the completion of operations, existing work shall be in a condition equal to or better than that which existed before new work started.

1.4 PROJECT CONDITIONS

A. USE OF SITE & PREMISES:

1. General:

a. Contractor is to assume full responsibility for the protection of existing premises in which work will not be taking place.

b. Location and arrangements for onsite storage shall be made at the Preconstruction Conference. All storage shall be under lock and key, in a container or other structure which protects the contents from the weather. The Contractor assumes full responsibility for the protection and safe keeping of products stored on premises.

c. The Contractor shall move any temporary facilities and/or stored products which interfere with the operations of the Owner or other Contractors.

d. The use of the premises is confined to work and storage. The Contractor shall provide for his own water, electrical, communications, HVAC & toilet facilities.

e. All operations will be conducted with minimum interferences to those portions of the site not included in the contract, adjacent properties and public ways.

2. Existing Streets and Parking Facilities:

a. Workmen shall park their vehicles in areas that will not block or obstruct public streets.

b. Do not obstruct streets, sidewalks, entrances, fire lanes, or other facilities without written consent of local authorities.

c. Use of the existing parking lot adjacent to the project is prohibited.

3. Trash Burning:

a. Burning of trash or rubbish is not permitted on project site.

4. Tobacco Usage:
    a. Use of tobacco in any form shall not be permitted anywhere inside a building or apartment.
    b. Contractors shall notify all personnel working on the project of this requirement and shall post signs to this effect.
    c. Contractor may designate an appropriate area outside the building where the use of tobacco may be permitted.

B. ON-SITE PERMISSIONS

A. Notify the Owner/Architect at least 72 hours prior to starting excavation work. Contractor is responsible for marking and verifying all utilities.

B. The Contractor shall verify the elevations of existing piping, utilities, and any type of obstruction not indicated or specified to be removed, but indicated in locations to be traversed by roofing and any other work to be installed. Verify conditions before installing new work to insure any mechanical and electrical or plumbing requirements.

C. Work shall be scheduled to hold utility interruptions to a minimum.

D. Utility interruptions and connections required during the prosecution of work that affect existing systems shall be arranged for at the convenience of the Owner and shall be scheduled outside the regular working hours or on weekends.

E. Contractor shall not be entitled to additional payment for utility outages and connections required to be performed outside the regular work hours.

F. Requests for utility outages and connections shall be made in writing to the Owner at least 21 calendar days in advance of the time required. Each request shall state the system involved, area involved, approximate duration of outage, and the nature of work involved.

PART 4 PRODUCTS - Not Used

PART 5 EXECUTION – Not Used

END OF SECTION

01 26 19

CLARIFICATION NOTICE

PART 6 GENERAL

6.1 SECTION INCLUDES

A. Work included in but not limited to this section requirements and procedures for Clarification Notices.

6.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

6.3 CLARIFICATION NOTICE

A. The Clarification Notice is issued to clarify the Contract Documents based on an interpretation reasonably inferable from the Contract Documents, and is believed to have no effect on the Contract Sum or Contract Time. Proceeding with the work affected by this Clarification Notice indicates acceptance with no change in the Contract Sum or Contract Time.

B. A Clarification Notice will be issued to any written Request for Information, in regard to the Contract Documents after the Bidding is complete and a Contract has been signed.

PART 7 PRODUCTS – Not Used

PART 8 EXECUTION – Not Used

END OF SECTION

01 26 33

MINOR CHANGES IN THE WORK

PART 9 GENERAL

9.1 SECTION INCLUDES

A. Work included in but not limited to this section procedures for Minor Changes in the Work.

9.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

9.3 MINOR CHANGES IN THE WORK

A. Supplemental instructions authorizing minor changes in the Work, which do not involve an adjustment to Contract Sum or Contract Time, will be issued by the Architect as an Owner's Field Order.

B. All conditions, requirements, materials and workmanship will be as described in the Contract Documents unless otherwise specifically stated.

C. The Contractor's signature upon the Field Change Form is the Contractor's acknowledgment that he is not entitled to any change in Contract Time or any additional adjustment in the Contract Sum or any other damages or compensation as a result of the Change in the Work other than that provided for in this Field Change, irrespective of whether a subsequent claim for additional compensation relating to the Change in the Work is described as a change in the requirements of the Contract Documents, a delay, a disruption of the Work, an acceleration of the Work, an impact on the efficiency of performance of the Work, an equitable adjustment, or other claim and irrespective of whether the impact of the Change in the Work is considered singly or in conjunction with the impact of other Changes in the Work.

PART 10 PRODUCTS – Not Used

PART 11 EXECUTION – Not Used

END OF SECTION

01 26 63

CHANGE ORDERS

PART 12 GENERAL

12.1 SECTION INCLUDES

A. Work included in but not limited to this section; procedures for contract Modifications.

12.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

1. Unit Prices
2. Section 01 29 76 Progress Payment Procedures
3. Section 01 33 23 Submittal Procedures, (Shop Drawings, Product Data & Samples)

12.3 CHANGE ORDER REQUESTS

A, Any and all Change Order Requests will be issued from the Architects office. All issued Change Requests will be on a standard form, a copy of which is included in the Specifications. A Change Order Request will be issued once it has been determined that a change is required, either due to work not covered by the construction documents or other interpretation, additional work requested by the Owner, or unforeseen work which is discovered needing completed during the performance of this contract. When the proposal is acceptable a change Order will be compiled for signatures by the Architect, then by the Owner and then the Contractor. No work, unless of an emergency nature, will take place without written consent of the Architect and Owner, in the form of a Change Order.

B. Owner-Initiated Change Requests:

1. Proposed changes in the Work will be issued by the Architect with a detailed description of the proposed change and supplemental or revised Drawings and Specifications.
   a. Change Requests issued are for information only. Do not consider them instructions to either stop work in progress or to execute proposed change.

b. Within 7 calendar days of receipt of the Change Request, the Contractor shall submit a proposed cost, (on the Contractor Proposal Form, sample copy in specification) necessary to execute proposed changes, to the Architect for the Owner's review. (If additional time is required due to the scope of the work, a request in writing shall be submitted).

1). Include with the proposal a list of quantities for the products to be purchased, their unit costs, and the labor quantities with fringe benefits. Include the total amount of purchases to be made and Labor required for the change.

c. Indicate applicable taxes, delivery charges, equipment rental and amount(s) of trade discount(s).

d. Include statement indicating effect proposed change in the Work will have on Contract Time.

C. Contractor-Initiated Change Requests:

1. When hidden or other unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for change to Architect (All issued Change Requests will be on a standard form, a copy of which is included in the Specifications).

a. Include a statement outlining reasons for the change and the effect the change will have on the Work.

b. Provide complete description of proposed change including required modifications to Contract Documents. Indicate the effect the proposed change will have on the Contract Sum and Time.

1). Include with the proposal a list of quantities for the products to be purchased, their unit costs, and the labor quantities with fringe benefits. Include the total amount of purchases to be made and labor required for the change

c. Indicate applicable taxes, delivery charges, equipment rental and amounts of trade discounts.

2. Comply with the requirements in Section 01 61 00 Common Product Requirements if proposed change in the Work requires substitution of one product or system for product or system specified.

1.4 SUBMITTALS

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

B. Any data required for the clarification of the Change Order Request if a substitution is involved of one product or system for product or system specified..

PART 2 PRODUCTS – Not Used

PART 3 EXECUTION – Not Used

END OF SECTION

01 29 76

PROGRESS PAYMENT PROCEDURES

PART 13 GENERAL

13.1 SECTION INCLUDES

A. Work included in but not limited to this section is Administrative and procedural requirements governing the Contractor's Applications for Payment.

13.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

B. Section 01 26 63 Change Orders

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid by Owner.

1. Application for Payment.

a. Application for Payment at time of Substantial Completion and final Application for Payment involve added requirements outlined below.

B. Payment Application Forms.

Use all Forms listed as required to substantiate the current Estimate for Partial Pay.

1. All payment forms to be AIA documents.

C. Application Preparation:

1. Complete every entry on form. Incomplete applications will be returned without action.
   a. Entries shall match data on the Schedule Values and the Construction Progress Schedule. Use updated schedules if revisions have been made.
   b. Include amounts of signed Change Orders issued prior to the last day of the construction period covered by application.

D. Transmittal and Approval Procedures.

1. Review of the Application for Payment will be made by the Architect, once a month, at a designated meeting which will be scheduled at the Preconstruction Conference. The application will be reviewed to insure all materials and work are completed as indicated on the submission.
2. Prior to transmitting the Application for Payment, a review copy of the Estimate for Partial Pay is to be sent to the Architects office, two (2) days in advance of the Construction Progress Meeting for review.
   a. Any materials stored off site should have a separate Application for Payment for that portion, submitted one week prior to the transmittal of the full Application for Payment. This allows the Architects office sufficient time to review all materials stored off site for which payment has been requested. All off site storage must be covered by proper insurance, under lock & key, accessible to the Owner and with required documentation per the contract documents, prior to any expected approval.
3. Submit five executed originals of each Application for Payment to the Architect. Include Waivers of Lien and similar attachments, as required.
   a. Send <u>each</u> copy with a transmittal form, listing attachments and appropriate information related to the Application, in a manner acceptable to the Architect.

E. Initial Application for Payment.

1. Administrative actions and submittals that shall precede or coincide with submittal of first Application for Payment include;
   a. List of subcontractors (as submitted with Bid).
   b. List of principal suppliers and fabricators.
   c. Construction Progress Schedule.
   d. List of unit prices (as submitted with Bid).

e. Submittal Schedule (preliminary if not final).
f. Copies of any required building permits.
g. Copies of authorizations and licenses from governing authorities for performance of the Work
h. Initial progress report & final Construction Time Line Schedule.
i. Minutes of the Preconstruction Conference.

F. Application for Payment at Substantial Completion.

1. Following issuance of a Certificate of Substantial Completion, submit an Application for Payment.
2. Administrative actions and submittals that shall precede or coincide with this application include;
   a. Occupancy permits and similar approvals.
   b. Meter readings.
   c. Operations & Maintenance Manuals.
   d. Change-over information related to Owner's occupancy, use, operation and maintenance.
3. Final cleaning
   a. Application for reduction of retainage and consent of surety

G. Final Payment Application.

1. Administrative actions and submittals which shall precede or coincide with the submission of the final Application for Payment include;
   a. Project closeout requirements are completed.
   b. Correction of the Substantial Completion Punch List, in its entirety.
   c. Proof of that unsettled claims have been settled prior to Final Payment.
   d. Evidence that work not completed and accepted is or will be completed (whether discovered after closeout & warranty period or not).
   e. Proof of transmittal of the required Project construction records to Owner or Architect.
   f. Proof that all taxes, fees and similar obligations have been paid.
   g. Removal of temporary facilities and services.
   h. Removal of surplus materials, rubbish and similar elements

H. Schedule for Contract Payments. (Schedule Of Values)

1. Provide a schedule of dollar values to Architect not less than 20 days Before submission of the first Application for Payment as a condition of processing the first payment. Coordinate preparation of Schedule for Contract payments with preparation of the Contractor's

Construction Schedule. Correlate line items in Schedule for Contract Payments, with other required administrative schedules and forms, including;

a. Contractor's Construction Time Line Schedule.
b. Payment Request form
c. Subcontractors & Suppliers List
d. Schedule of submittals.

2. Format & Content.

a. Submit Schedule for Contract Payments on indicated form. (sample of which is bound in this specification).

b. The categories shown shall include the pro rata portion of overhead and profit for each line item, so the sum of items will equal the Contract Sum. The Schedule shall correspond to the items of work in Contractor's Construction Time Line Schedule including work of Subcontractors.

PART 14 PRODUCTS – Not Used

PART 15 EXECUTION – Not Used

END OF SECTION

01 31 13

PROJECT COORDINATION

PART 16 GENERAL

16.1 SECTION INCLUDES

A. Work included in but not limited to this section.

1. Administrative and supervisory requirements necessary for Project Coordination.
2. Administrative and procedural requirements for Project Coordination Meetings.

16.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the

General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

1. 01 41 13 Regulatory Requirements
2. 01 29 76 Progress Payment Procedures
3. Form of Performance & Payment Bond

B. Definitions

1. Designation for this Project is SBS Modified Bitumen Membrane Roofing.
2. This Project designation shall be included on documents generated for Project by Contractor and Subcontractors, or be present on a cover letter accompanying such documents.

1.3 PROJECT COORDINATION

A. Coordinate construction activities included in Contract Documents to assure efficient and orderly installation of each part of the Work. Coordinate construction operations that are dependent upon each other for proper installation, connection, and operation.

1. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in sequence required to obtain best results.
2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. When necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports and attendance at meetings.
Prepare similar memoranda for Owner and separate Contractors when coordination of their Work is required.

C. Administrative Procedures;

1. Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to;
   a. Preparing of schedules
   b. Installing and removing temporary facilities
   c. Delivering and processing submittals

d. Progress meetings

e. Project Close-out activities

2. Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1.4. PROJECT MEETINGS

A. Preconstruction Conference

1. Architect will schedule a preconstruction conference and organizational meeting at the Project Site or other convenient location within 15 days of issuance of a Notice To Proceed and before commencement of construction activities. The Architect will conduct the meeting to review responsibilities and personnel assignments.

2. Attendees;

The Owner, the Architect and his consultants, the Contractor and his superintendent, major Subcontractors and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.

3. Agenda;

a. Discuss significant topics that could affect progress, including;

1) Tentative construction schedule

2) Critical Work sequencing

3) Designation of responsible personnel

4) Procedures for processing clarifications, interpretations and modifications

5) Procedures for processing Application for Payments

6) Distribution of Contract Documents

7) Submittal of Product Data, Shop Drawings, Samples, Quality Assurance/Control submittals

8) Preparation of record documents and O & M manual

9) Use of the premises

10) Office, work, and storage areas

11) Equipment deliveries and priorities

12) Safety procedures

13) First aid

14) Security

15) Housekeeping

16) Working hours

17) Resolving current problems

18) Further orientation as to requirements of Contract

Documents

19) Architect's responsibility to Owner for inspection

20) Working out general schedule of Architect's inspection

b. Record significant discussions and agreements and disagreements of each meeting and distribute minutes of meeting within three working days to all, including the Owner.

B. Progress Meetings;

1. Architect will conduct progress meetings at Project site at regularly scheduled intervals but at least once a month.

2. Attendees will be the Owner, Architect, Contractor and Subcontractors involved with current progress, planning, coordination or performance of current and future activities. Representatives at these meetings should be persons familiar with the Project and authorized to conclude matters relating to progress.

3. Agenda:

a. Review and discuss the following;

1) Minutes of the previous progress meeting. Significant items which could affect progress. Include topics for discussion as appropriate to status of Project.

2) Progress since last meeting, where each activity is in relation to Contractor's Construction Schedule, and determine whether it is on time, ahead or behind schedule. Discuss how construction behind schedule is to be expedited. Decide and secure commitments from parties involved in the late Work. Discuss required schedule revisions to ensure that current and subsequent activities will be completed within Contract Time.

3) Present and future needs of each entity represented will be discussed, including such items as;

a) Interface requirements

b) Time

c) Sequences

d) Deliveries

e) Off-site fabrication problems

f) Access

g) Site use

h) Temporary facilities and services

i) Hours of work

j) Hazards and risks
k) Housekeeping
l) Quality and Work standards
m) Modifications
n) Documentation of information for Application for Payment

b. Architect will include brief summary of progress since previous meeting in narrative form. Within three days after each progress meeting date, copies of meeting minutes will be distributed by Architect to each party present and to parties concerned but not present, including the Owner.

c. Revise Contractor's Construction Schedule after each progress meeting updating the schedule to reflect changes that have been made or recognized. Issue revised schedule within three days after each progress meeting date, to each party present and to parties concerned but not present, including the Owner.

C. Pre-installation Meetings;

1. Develop a schedule for pre-installation meetings based on Contractor's Construction Time Line Schedule. These meetings are to occur at the same time as Architect's regularly scheduled inspection visits, if possible. Hold pre-installation meetings at site before commencement of work specified in trade Sections requiring such a meeting.

2. Attendees & Agenda

Owner, Architect, Contractor, Subcontractors, item or system suppliers/installers, Manufacturer's representatives and others as specified or invited.

a. Review progress of other construction activities and preparations for particular activity under consideration at each pre-installation meeting, including;

1) Reviewing and confirming requirements of Contract Documents including related Modifications
2) Verifying that completed work is ready for installation of items or systems
3) Resolving conditions not in compliance with installation requirements
4) Establishing installation and inspection schedule
5) Coordination between trades
6) Other trades which affect work of trade Section

7) Other items specified in individual Sections
8) Deliveries
9) Shop Drawings, Product Data, Samples and Quality Assurance/Control Submittals
10) Possible conflicts
11) Compatibility problems
12) Weather limitations
13) Manufacturer's recommendations
14) Compatibility of materials
15) Temporary facilities
16) Space and access limitations
17) Governing regulations
18) Testing requirements
19) Required performance results
20) Recording requirements
21) Protection

b. Record significant discussions and agreements and disagreements of each meeting, and distribute meeting minutes within three working days to everyone concerned, including the Owner.

c. Make adjustments to work schedule necessitated by decisions of meeting. Do not proceed with work of Section involved if conference cannot be successfully concluded. Initiate necessary actions to resolve impediments to performance of the Work and reconvene conference within one week.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

01 32 16

CONSTRUCTION TIME LINE PROGRESS SCHEDULE

PART 17 GENERAL

17.1 SECTION INCLUDES

A. Work included in but not limited to this section.

1. Administrative and supervisory requirements necessary for Project Scheduling.

17.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

1.3 PROGRESS SCHEDULE & REPORTS

A. Construction Schedule

1. General Requirements

a. Submit and maintain schedule for the Work that defines critical path. Display accepted schedule in site construction office at all times and review with Subcontractors each week. Form of Schedule shall be acceptable to Architect and Owner.

b. Utilize schedule for planning, organizing, and directing the Work, for reporting progress, and for requesting payment for work completed. Review schedule at each periodic progress meeting.

c. Use the legend of symbols (separate or attached) to clearly explain abbreviations used in schedules.

2. Show important stages of construction for each major portion of the Work, including testing and installation.

3. Provide separate timeline to identify each major construction area for each major portion of the Work. Show the sequencing or integration of each element in an area with other activities.

4. Following a response to the initial submittal, print and distribute copies to Architect, Owner, Subcontractors, other Contractors and other parties required to comply with scheduled dates. Post copies in Project meeting room and temporary field office. When revisions are made, distribute to

same parties and post in same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

6. Revise schedule after each meeting or activity where revisions have been recognized or made. Issue updated schedules concurrently with a report of each meeting.
7. Acceleration Of The Work;
   a. If circumstances require that the Work or portion thereof be completed at a date earlier than Contract completion date as adjusted by Modifications and if directed by Architect and Owner, increase forces, equipment, hours of work, and/or number of shifts and speed up delivery of materials to meet altered completion date(s) ordered or directed. Any increase in cost to Contractor in compliance with such orders or directives will be reflected in an adjustment in Contract Sum in accordance with additional work performed.

   b. If in judgment of the Architect and Owner the Work is behind schedule and rate of placement of work is inadequate to regain scheduled progress and if so informed by Architect and Owner, immediately take action to increase rate of work placement.
      1) This shall be accomplished by any one or a combination of the following or other suitable measures;
         a) An increase in working forces
         b) An increase in equipment or tools
         c) An increase in hours of work or number of shifts
         d) Speeding up delivery of materials
      2) Within 10 days after being so informed, notify Architect of specific measures taken and/or planned to increase rate of progress with an estimate of when scheduled progress will be regained. If the plan of action is deemed inadequate by the Architect and Owner, take additional steps or make adjustments to the plan of action until it meets with the Architect's and Owner's approval.
      3) The acceleration of work will continue until the originally scheduled progress is regained. Re-establish progress from the latest revised, approved progress schedule for the Project. Timely completion is

understood to be contract completion date as revised by time extensions granted at time acceleration is undertaken.

4) No additional compensation for additional effort applied to the Work under terms of this subparagraph will be granted.

c. Any directive or order to accelerate the Work will be in writing. Any directive or order terminating accelerated work will be in writing.

B. Weekly Construction Reports

1. Prepare daily reports of operations at Project containing at least following information;
   a. List of Subcontractors at site
   b. Approximate count of personnel at site by trade
   c. High and low temperatures, general weather conditions
   d. Major items of equipment on site
   e. Materials, equipment, or Owner-furnished items arriving or leaving site
   f. Accidents and unusual events
   g. Site or structure damage by water, frost, wind or other causes
   h. Meetings and significant decisions
   i. Visitors to the job including those who attend meetings
   j. Stoppages, delays, shortages, losses
   k. Any tests made and their result if known
   l. Meter readings and similar recordings
   m. Emergency procedures
   n. Orders and requests of governing authorities
   o. Modifications received, carried out
   p. Services connected, disconnected
   q. Equipment or system tests and start-ups
   r. Brief summary of work accomplished that day
2. Forward weekly reports to the Architect on a weekly basis. Preface each report with a Project Status Report summarizing possible risks with responsible party, as well as noting all current and proposed change orders.
3. Maintain file copies of weekly reports on site and make available to Architect and Owner upon request. Furnish copy of Project Status Report including possible risks to KPC staff.

PART 18 PRODUCTS

PART 19 EXECUTION

END OF SECTION

01 33 23

SUBMITTAL PROCEDURES

PART 20 GENERAL

20.1 SECTION INCLUDES

A. Work included in but not limited to this section.

1. Administrative provisions relating to processing of submittals required by the Contract Documents.

20.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

B. All Sections which specify Shop Drawings, Product Information, Manufacturing Qualifications, Samples, Color Charts and any other information required for review by the Architect.

1.3 GENERAL PROCEDURES

A. Coordinate the preparation and processing of submittals in a timely manner so as to be ahead of the performance of the construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.

2. Coordinate transmittal of different types of submittals required for related elements of the Work so processing will not be delayed by need to review submittals concurrently for coordination. Architect reserves right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

3. Allow sufficient review time so installation will not be delayed by

the time required to process submittals, including time for resubmittals.

a. Allow 14 days for initial review. Allow additional time if processing must be delayed to allow coordination with subsequent submittals. Architect will promptly advise Contractor when a submittal being processed must be delayed for coordination.

b. If an intermediate submittal is necessary, process same as initial submittal.

c. Allow 10 days for reprocessing each submittal.

d. No extension of Contract Time will be authorized due to failure to sufficiently transmit submittals to Architect before work is to be performed to allow processing.

4. Place a permanent label or title block on each submittal for identification. Include name of entity that prepared each submittal on the label or title block.

a. Provide space approximately 4” x 5” on label or beside title block on Shop Drawings to record Contractor's review and approval markings and action taken.

b. Include following information on label for processing and recording action taken.

1) Project name.

2) Date.

3) Name and address of Architect.

4) Name and address of Contractor.

5) Name and address of Subcontractor.

6) Name and address of supplier.

7) Name of manufacturer.

8) Number and title of appropriate Specification Section.

9) Drawing number and detail references, as appropriate.

5. Package each submittal from Contractor to Architect appropriately for transmittal and handling using a transmittal letter. On the transmittal record relevant information and requests for data. Include Contractor's certification that information complies with Contract Document requirements or on form or separate sheet, record deviations from Contract Document requirements, including

minor variations and limitations.

6. Submittals received from sources other than the Contractor or not marked with Contractor's approval will be returned without action.

B. Architect's Action;

1. Allow 14 calendar days for Architect's review and return for initial submittals and 10 calendar days for re-submittals.

2 Submittals reviewed by the Architect will be identified as having received such review by being so stamped and dated.

a. Submittals marked "REVIEWED" cover that part of the Work detailed in the submittal and Work may proceed provided it complies with the requirements of the Contract Documents. Final acceptance will depend upon that compliance.

b. Submittals marked "REVIEWED WITH COMMENT" will allow that part of the Work detailed in the submittal to proceed, provided it complies with notations or corrections on submittal and requirements of Contract Documents. Final acceptance will depend on that compliance.

c. Submittals marked "REJECTED/RESUBMIT" cover that part of the Work detailed in the submittal, including purchasing, fabrication, delivery or other activity, and mean that work must not proceed. Revise or prepare new submittal in accordance with notations and resubmit without delay at any additional cost to Owner. Repeat as necessary to obtain a satisfactory action comment.

1) Do not permit submittals marked "Revise and Resubmit" to be used at Project site, or elsewhere where the Work is in progress.

d. When submittal is marked "REJECTED," do not proceed with that part of the Work covered by submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare new submittal for work in compliance with requirements of Contract.

Documents in accordance with notations and resubmit without delay at any additional cost to Owner. Repeat as necessary to obtain satisfactory action comment.

1) Do not permit submittals marked "REJECTED" to be used at

Project site or elsewhere where the Work is in progress.

e. Where a submittal is primarily for information or record purposes, special processing, or other activity, submittal will be returned, without stamp.

f. Where submittals do not contain all Product data, Shop Drawings, color selection data, samples and other required data, they will be returned with no action.

g. **Architect will not make final color and finish selections until all color and finish data for all products has been received and product reviewed by Architect.**

3. Two copies of each submittal will be retained in Architect's office until completion of Project.

4. Except for submittals for record, information, or similar purposes, where action and return is required or requested, Architect will review each submittal, indicate action taken and promptly return to Contractor.

1.4. SUBMITTAL SCHEDULE

A. Within 20 days of receipt of a Notice to Proceed, furnish submittal schedule listing items specified to be furnished for review to Architect including product data, shop drawings, samples and quality assurance/control submittals.

1. Coordinate submittal schedule with list of Subcontractors, Schedule of Values and Contractor's Construction Schedule.

2. Prepare schedule in chronological order, including submittals required during first 90 days of construction. Provide following information;

a. Scheduled date for first submittal

b Related Section number

c. Submittal category

d. Name of Subcontractor

e. Description of part of the Work covered

f. Scheduled date for resubmittal

g. Scheduled date for Architect's final release or approval

3. Schedule shall show 14 days minimum after receipt for review by Architect. If resubmittal is required, an additional 10 days will be allowed for after receipt.

B. Following response to initial submittal schedule, print and distribute copies to Architect, Owner, Subcontractors and other parties required to comply with

submittal dates shown. Post copies in Project meeting room and field office. When revisions are made, distribute to same parties and post in same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

C. Update schedule after each meeting or activity to reflect revisions. Issue updated schedule concurrently with meeting minutes.

D. Furnishing of submittal schedule or revision thereto shall not be interpreted as relieving Contractor of his obligation to comply with Contract Document requirements for items on schedule.

1.5 SHOP DRAWINGS, PRODUCT DATA & SAMPLES

A. Shop Drawings

1. Submit newly prepared graphic data to accurate scale. Except for templates, patterns and similar full size Drawings, submit Shop Drawings on sheets at least 8.5" x 11" but no larger than 36" x 48". Mark deviations from Contract Documents. Include the following information as a minimum:
   a. Dimensions
   b. Identification of products and materials included
   c. Compliance with specified standards
   d. Notation of coordination requirements
   e. Notation of dimensions established by field measurement
2. Do not reproduce Contract Documents or copy standard information as basis of Shop Drawings. Standard information prepared without specific reference to Project is not considered Shop Drawings.
3. Review and designate (stamp) approval of shop drawings. Submit shop drawings required by Contract Documents to Architect with reasonable promptness and in orderly sequence. Shop drawings not required by Contract Documents, but requested by Contractor or supplied by Subcontractor need not be submitted to the Architect for review. However, these shop drawings shall meet specified shop drawing requirements except those relating to submission to Architect.
   a. Bear cost of reproducing copies of shop drawings required by all concerned. Instead of prints, sepia may be required.
   b. Shop drawings shall be complete and detailed.
   c. Shop drawings shall be properly identified as specified or as Architect requires.
   d. Provide 3 copies of Shop Drawings unless required otherwise in

Specification Section.

B. Product Data

1. Collect Product Data, as required by individual Sections, into separate submittals. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as Shop Drawings.
2. Mark each copy to show applicable choices and options. Printed Product Data may include information on several products, some of which are not required for Project, mark copies to show relevant information.
3. Do not submit Product Data until compliance with requirements of Contract Documents has been confirmed.
4. Submit preliminary single-copy of Product Data where selection of options by Architect is required.
5. Submit five copies minimum of each required submittal. Architect will retain one and return others marked with action taken and with corrections or modifications required. Unless noncompliance with Contract Document provisions is observed, submittal may serve as final submittal. Insert one marked copy in Owner-provided three-ring binders used to become Operations & Maintenance Manuals specified in Section 01 78 00 Closeout Submittals.
6. Furnish copies of final submittal to Subcontractors and others as required for performance of construction activities. Show distribution on transmittal forms.
    a. Do not proceed with installation until applicable copy of Product Data is in installer's possession.
    b. Do not allow use of unmarked copies of Product Data in connection with construction.

C Samples

1. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
    a. Mount, display or package Samples for easy review of qualities indicated. Prepare Samples to match samples provided by Architect, if applicable. Include following;
        1) Generic description of Sample
        2) Sample source
        3) Product name or name of manufacturer
        4) Compliance with recognized standards

5) Availability and delivery time

b. Submit Samples for review of kind, color, pattern and texture for final check of these characteristics with other elements, and for a comparison of these characteristics between final submittal and actual component as delivered and installed.

1) Where variations in color, pattern, texture or other characteristics are inherent in material or product represented, submit multiple units (not less than 3), which show approximate limits of variations.

2) Refer to other specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, and details of assembly, connections, operation and similar construction characteristics.

3) Refer to other Sections for Samples to be returned to Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On transmittal, indicate special requests regarding disposition of Sample submittals.

c. Where Samples are for selection of color, pattern, texture, or similar characteristics from a range of standard choices, submit full set of choices for material or product. Preliminary submittals will be reviewed and returned with Architect's comment indicating selection and other action.

d. Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit 3 sets, one will be returned marked with action taken.

e. Samples accepted and returned by Architect shall be used for quality comparisons throughout the course of construction.

1) Unless noncompliance with Contract Documents is observed, submittal may serve as final submittal.

2) Sample sets may be used to obtain final acceptance of construction associated with each set.

2. Prepare and distribute additional sets to Subcontractors and others as required for performance of the Work. Show distribution on transmittal forms.

1.6. QUALITY CONTROL SUBMITTALS

A. Quality Assurance/Control submittals are design data, test reports, certificates, manufacturer's instructions, manufacturer's field reports and other documentary data affirming quality of products and installations.

1. Submit 2 copies to Architect immediately upon receipt.

1 PRODUCTS – Not Used

2 EXECUTION – Not Used

END OF SECTION

01 41 13

REGULATORY REQUIREMENTS

PART 21 GENERAL

21.1 SECTION INCLUDES

A. Work included in but not limited to this section.

1. Administrative requirements for permissions and permits.

21.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

21.3 PERMITS

A. Contractor shall obtain and pay cost of permits, licenses, fees and bonds necessary for completion of this Work.

B. Contractor shall secure certificates of inspection and of occupancy that may be required by authorities having jurisdiction over the Work. He shall deliver these certificates to Architect prior to execution of Certificate of Substantial Completion.

21.4 REGULATION

A. The Contractor and others working under his jurisdiction shall perform all work in compliance with laws, regulations and ordinances of any kind required by governmental authority or other agency having jurisdiction over this Work.

B. If Contractor observes that Contract Documents are in variance with any laws, regulations, and ordinances, he shall notify Architect and shall not proceed unless necessary changes required for compliance with said laws, regulations and ordinances have been affected as provided in the General Conditions. The Contractor shall be fully responsible for any work knowingly performed contrary to said laws, regulations and ordinances and shall fully indemnify Owner and Architect against loss and bear all costs and penalties that may arise.

PART 22 PRODUCTS

PART 23 EXECUTION

END OF SECTION

01 42 13

REFERENCES

PART 24 GENERAL

24.1 SECTION INCLUDES

A. Work included in but not limited to this section.

1. Administrative and procedural requirements relating to quality assurance.

24.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

B. Section 01 62 01 Product Requirements

24.3 REFERENCES

A. INDUSTRY STANDARDS:

1. Except where Contract Documents specify differentaly, construction

industry standards will apply and are made a part of Contract Documents by reference.

2. Where compliance with two or more standards is specified and standards apparently establish different or conflicting requirements for minimum quantities or quality levels, refer to Architect for decision before proceeding. Quantity or quality level shown or specified will be minimum provided or performed. Actual installation may comply exactly with minimum quantity or quality specified, or it may exceed minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum, as appropriate for context of requirements. Refer uncertainties to Architect for decision before proceeding.
3. Each entity engaged in construction on Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with Contract Documents. Where copies of standards are needed for performance of a required construction activity, Contractor will obtain copies directly from publication source.
4. Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in Contract Documents, are defined to mean associated names. Names and addresses are subject to change and are believed to be, but are not assured to be, accurate and up to date as of date of Contract Documents.
    a. **AABC**: Associated Air Balance Council, Washington, D.C. (202) 737-0202 www.aabchq.com.
    b. **AAMA**: American Architectural Manufacturers Association, Schaumburg, IL (847) 303-5859 www.aamanet.org.
    c. **AASHTO**: American Association of State Highway & Transportation Officials, Washington, D.C. (202) 624-5800 www.aashto.org.
    d. **ACI**: American Concrete Institute International, Farmington Hills, MI (248) 848-3700 www.aci-int.org.
    e. **AGA**: American Gas Association, Washington DC (202) 824-7000 www.aga.org.
    f. **AIA**: American Institute of Architects, Washington, D.C. (202) 626-7300 www.aiaonline.com.
    g. **AISC**: American Institute of Steel Construction, Chicago, IL (312) 670-2400 www.aisc.org.

h. **AISI**: American Iron & Steel Institute, Washington, D.C. (202) 452-7100 www.steel.org.

i. **AITC**: American Institute of Timber Construction, Englewood, CO (303) 792-0669.

j. **AMCA**: Air Movement & Control Association International Inc, Arlington Heights, IL (847) 394-0150 www.amca.org.

k. **ANSI**: American National Standards Institute, New York, NY (212) 642-4900 www.ansi.org.

l. **APA**: APA-The Engineered Wood Association, Tacoma, WA (253) 565-6600 www.apawood.org.

m. **API**: American Petroleum Institute, Washington, DC 20005 (202) 682-8000 www.api.org.

n. **ARI**: Air Conditioning & Refrigeration Institute, Arlington, VA 22203 (703) 524-8800 www.ari.org.

o. **ASHRAE**: American Society of Heating, Refrigerating, & Air-Conditioning Engineers, Atlanta, GA (404) 636-8400 www.ashrae.org.

p. **ASME**: American Society of Mechanical Engineers International, New York, NY (800) 843-2763 www.asme.org.

q. **ASTM**: American Society for Testing & Materials, West Conshohocken, PA (610) 832-9585 www.astm.org.

r. **AWI**: Architectural Woodwork Institute, Reston, VA (703) 733-0600 www.awinet.org.

s. **AWPA**: American Wood Preservers' Association, Granbury, TX (817) 326-6300 www.awpa.com.

t. **AWS**: American Welding Society, Miami, FL (800) 443-9353 www.amweld.org.

u. **AWWA**: American Water Works Association, Denver, CO (303) 794-7711 www.awwa.org.

v. **BHMA**: Builders Hardware Manufacturers Association, New York, NY (212) 297-2100 www.buildershardware.com.

w. **BIA**: Brick Industry Association, Reston, VA (703) 620-0010 www.bia.org.

x. **CFI**: International Certified Floorcovering Installers Association, Kansas City, MO (816) 231-4646 www.cfi-installers.org.

y. **CRI**: Carpet & Rug Institute, Dalton, GA (800) 882-8846 www.carpet-rug.com.

z. **CRSI**: Concrete Reinforcing Steel Institute, Schaumburg, IL

(847) 517-1200 www.crsi.org.

aa. **CISPI**: Cast Iron Soil Pipe Institute, Chattanooga, TN (423) 892-0137.

bb. **DHI**: Door & Hardware Institute, Chantilly, VA (703) 222-2010 www.dhi.org.

cc. **EIMA**: EIFS Industry Members Association, Morrow, GA (800) 294-3462 www.eifsfacts.com.

dd. **FM**: FM Global (Formerly Factory Mutual), Johnston, RI www.fmglobal.com.

ee. **GA**: Gypsum Association, Washington, D.C. (202) 289-5440 www.gypsum.org.

ff. **ICBO**: International Conference of Building Officials, Whittier, CA (800) 423-6587 www.icbo.org.

gg. **ISSA**: International Slurry Surfacing Association, Washington, DC (202) 857-1160 www.slurry.org.

hh. **LPI**: Lightning Protection Institute, Arlington Heights, IL (800) 488-6864 www.lightning.org.

ii. **MFMA**: Maple Flooring Manufacturers' Association, Northbrook, IL (847) 480-9138 www.maplefloor.org.

jj. **MSS**: Manufacturer's Standardization Society of The Valve and Fittings Industry, Vienna, VA (703) 281-6613 www.mss-hq.com.

kk. **NAAMM**: National Association of Architectural Metal Manufacturers, Chicago, IL (312) 332-0405 www.naamm.org.

ll. **NEC**: National Electric Code (from NFPA).

mm. **NEMA**: National Electrical Manufacturer's Association, Rosslyn, VA (703) 841-3200 www.nema.org.

nn. **NFPA**: National Fire Protection Association, Quincy, MA (800) 344-3555 www.nfpa.org.

oo. **NFRC**: National Fenestration Rating Council, Silver Spring, MD (301) 589-6372 www.nfrc.org.

pp. **NSF**: NSF International, Ann Arbor, MI (734) 769-8010 www.nsf.org.

qq. **PCA**: Portland Cement Assoc, Skokie, IL (847) 966-6200 www.portcement.org.

rr. **PCI**: Precast / Prestressed Concrete Institute, Chicago, IL (312) 786-0300 www.pci.org.

ss. **PEI**: Porcelain Enamel Institute, Nashville, TN (615) 385-5357

www.porcelainenamel.com.

tt. **SDI**: Steel Deck Institute, Fox River Grove, IL (847) 462-1930 www.sdi.org.

uu. **SDI**: Steel Door Institute, Cleveland, OH (440) 899-0010 www.steeldoor.org.

vv. **SIGMA**: Sealed Insulating Glass Manufacturer's Association, Chicago, IL (312) 644-6610 www.sigmaonline.org/sigma.

ww. **SJI**: Steel Joist Institute, Myrtle Beach, SC (843) 626-1995 www.steeljoist.org.

xx. **SMACNA**: Sheet Metal &Air Conditioning Contractors National Association, Chantilly, VA (703) 803-2980 www.smacna.org.

yy. **SPIB**: Southern Pine Inspection Bureau, Pensacola, FL (850) 434-2611 www.spib.org.

zz. **SSMA**: Steel Stud Manufacturer's Association, Chicago, IL (312) 332-0405 www.ssma.com.

aaa. **TCA**: Tile Council of America, Anderson, SC (864) 646-8453 www.tileusa.com.

bbb. **TPI**: Truss Plate Institute, Madison, WI (608) 833-5900.

ccc. **UL**: Underwriters Laboratories, Northbrook, IL (847) 272-8800 www.ul.com.

ddd. **WDMA**: Window and Door Manufacturer's Association, Des Plaines, IL (847) 299-5200 www.nwwda.org.

eee. **WWPA**: Western Wood Products Association, Portland, OR (503) 224-3930 www.wwpa.org.

5. Federal Government Agencies: Names and titles of federal government standard or specification producing agencies are often abbreviated. Following acronyms or abbreviations referenced in Contract Documents represent names of standard or specification producing agencies of federal government. Names and addresses are subject to change but are believed to be, but are not assured to be, accurate and up to date as of date of the Contract Documents.

a. **CS**: Commercial Standard (U S Department of Commerce), Washington, D C (202) 512-0000

b. **EPA**: Environmental Protection Agency, Washington, D C (202) 260-2090

c. **FCC**: Federal Communications Commission, Washington, D C (202) 418-0126

d. **FS**: Federal Specifications Unit (Available from GSA), Washington, D C (202) 619-8925

e. **MIL**: Military Standardization Documents (U S Department of Defense), Defense Printing Service, Philadelphia, PA (215) 697-2179

f. **OSHA**: Occupational Safety & Health Administration (U S Department of Labor), Washington, D C (202) 219-8148

g. **PS**: Product Standard of NBS (U S Department of Commerce), Washington, D.C. (202) 512-1800

6. Governing Regulations / Authorities:
   Contact authorities having jurisdiction directly for information and decisions having a bearing on the Work.
7. Obtain copies of regulations required to be retained at Project Site, available for reference by parties who have a reasonable need for such reference.

a. PRODUCTS Not used

b. EXECUTION Not used

END OF SECTION

01 54 12

TEMPORARY FACILITIES, CONTROLS & CONSTRUCTION AIDS

PART 25 GENERAL

25.1 SECTION INCLUDES

A. Work included in but not limited to this section.
   1. Requirements for temporary utilities
      a. Water service and distribution.
      b. Temporary electric power and light.
      c. Telephone service.
      d. Storm and sanitary sewer.
   2. Requirements for temporary construction and support facilities
      a. Temporary heat.

b. Field offices and storage sheds.
c. Temporary roads and paving.
d. Sanitary facilities.
e. Dewatering facilities and drains.
f. Temporary enclosures.
g. Hoists.
h. Temporary Project identification signs and bulletin boards.
i. Waste disposal services.
j. Rodent and pest control.
k. Construction aids and miscellaneous services and facilities.

3. Requirements for security and protection facilities -
   a. Temporary fire protection.
   b. Barricades, fences, warning signs, lights.
   c. Environmental protection.

25.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

B. Section 01 14 13 Access to & Use of Site

. Section 01 41 13 Regulatory Requirements

1.3 SUBMITTALS

A. See Section 01 33 23 Submittal Procedures for requirements.

B. Emergency Procedures Documentation

1. Prior to starting work Contractor shall provide to the Architect a written document containing emergency procedures in case of:
   a. Liquid spills or leaks,
   b. Release of gases or toxic vapors,
   c. Excessive smoke.
2. This document shall contain but not be limited to:
   a. Emergency medical, fire, and police telephone numbers including the Owner.
   b. EPA telephone numbers,
   c. IDEM telephone numbers,
   d. Location of Material Safety Data sheets.

C. Material Data Safety sheets

1. Prior to using any chemical or hazardous material, the contractor shall provide the Architect with a copy of Material Data Safety Sheets

covering the chemical or hazardous material.

2. Maintain at the jobsite Material Safety Data sheets (MSDS) covering all chemicals and hazardous materials to be used in the work area. MSDS are to be available to workers personnel during normal working hours. Contractor shall use proper procedures based on MSDS when handling hazardous chemicals and materials.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements

1. Comply with industry standards and applicable laws and regulations of authorities having jurisdiction.
2. Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.
3. All work performed by contractors shall be done in accordance with all applicable Federal, State, and Local laws, codes, and regulations and recommendations of Factory Mutual Engineering and Research (FM).
4. Any safety hazard or unsafe act recognized shall be reported to the Contractor responsible for job coordination. The safety hazard shall be corrected in a timely manner dictated by the severity of the safety hazard or unsafe act.
5. Contractors shall remove all rubbish from the job site daily.
6. All construction materials shall be protected from wind damage. Materials shall be secured to prevent them from becoming airborne with subsequent injury to personnel or damage to property.
7. Any Contractor employee who deliberately interferes with environmental monitoring shall be removed from the project immediately.

1.5 PROJECT CONDITIONS

A. Prepare schedule indicating dates for implementation and termination of each temporary utility. At earliest feasible time, when acceptable to Owner and Architect, change over from use of temporary service to use of permanent service.

B. Keep temporary services and facilities clean and neat in appearance. Operate in safe and efficient manner.

1. Take necessary fire prevention measures.
2. Do not overload facilities, or permit them to interfere with progress.
3. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on Project site.

PART 26 PRODUCTS Not Used

PART 27 EXECUTION

3.1 INSTALLATION:

A. Use qualified personnel for installation of temporary facilities. 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.

3.2 TEMPORARY UTILITY INSTALLATION:

A. Where necessary, coordinate installation or connection of temporary service to existing electrical distribution system. Where electrical system provides only part of service, provide remainder with matching, compatible materials and equipment. Comply with local Utility requirements to avoid damage to system and equipment.

1. Provide adequate capacity at each stage of construction. Before temporary utility availability, provide trucked-in services.
2. Cost or use charges for temporary facilities are not chargeable to Owner or Architect, and will not be accepted as basis of claims for a Change Order.

B. Temporary Electrical Service

1. Provide all temporary wiring, outlets, etc, complying with local codes and Article 590, Temporary Installations, NEC 2008.
2. Electrical Contractor shall provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period.
3. All extension cords shall be protected from abrasion and traffic. Multiple lengths of extension cord shall be connected with waterproof twist-lock type connectors. Any electrical service over 115 volts shall be marked accordingly. All electrical power supplied from building service or portable generators shall have ground fault protection as part of the circuit.
4. Portable generators or welders driven by internal combustion engines shall not be located inside the building. Positioning of this equipment outside the building shall be such that engine exhaust shall not enter the workplace or adjacent buildings.

C. Temporary Lighting

1. Electrical Contractor shall provide temporary lighting with local switching.
2. Install and operate temporary lighting that will fulfill security and protection requirements, without operating entire system, and will provide adequate

illumination for construction operations and traffic conditions.

D. Temporary Telephones

1. The Contractor shall provide temporary telephone service for all personnel engaged in construction activities, throughout construction period.

a. Local calls shall be paid for by Contractor. Long-distance and toll calls shall be paid for by party making call.

b. At each telephone, post list of important telephone numbers.

E. Water Service

1. Contractor to provide water required for construction purposes.

2. Distribution system shall be provided by the Contractor.

F. Sanitary Facilities

1. Contractor shall provide temporary facilities for use of all personnel the entire construction project.

3.3 TEMPORARY CONSTRUCTION & SUPPORT FACILITIES INSTALLATION:

A. Locate field offices, storage sheds, and other temporary construction and support facilities for easy access.

1. Maintain temporary construction and support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

2. Provide noncombustible construction for offices, shops, and sheds located within construction area, or within 30 feet of building lines.

B. Heating, Cooling, & Ventilating

1. Install and operate temporary heating, cooling, and ventilating units including fuel, temporary piping, fittings, wiring, and connections necessary. Coordinate ventilation requirements to produce ambient condition required and minimize consumption of energy.

2. Contractor shall be responsible for damage to building and contents caused by cold, heat or dampness, and heating, cooling and ventilating equipment. Select safe equipment that will not have harmful effect on completed installations or elements being installed.

3. Maintain safe conditions for use of temporary heating, cooling, and ventilating systems including, but not limited to, following

a. Operate equipment in accordance with equipment manufacturer's instructions.

b. Provide fresh air ventilation required by equipment manufacturer.

c. Keep temperature of fuel containers stabilized.

d. Secure fuel containers from overturning.

e. Operate equipment away from combustible materials.

4. When temporary heating, cooling, or ventilating is no longer required or as soon as the permanent heating system may be used, Contractor shall dismantle the temporary system and shall at his own expense, including cost of fuel, operate permanent mechanical system, assuming all responsibility and risk thereof. Contractor shall return permanent mechanical equipment to 'like-new' condition for Substantial Completion Inspection.

5. Provide adequate exhaust ventilation for work area when generation of air contaminants is likely, i.e., painting, handling flammable liquids, welding, cutting, applying adhesives, etc.

6. Prevent fumes from welding, cutting, etc. and dust generated by construction from entering areas outside the work area by erecting plastic film barriers, sealing openings and ducts, and installing exhaust fans as required.

7. Air contaminants in the work area shall not exceed OSHA regulations.

C. Field Offices

1. Provide insulated, weather-tight temporary offices of sufficient size to accommodate Contractor's personnel at Project site and for use by Architect and subcontractors. This building shall be property of Contractor and be removed when directed. Keep office clean and orderly for use for small progress meetings.

2. Office shall be heated or cooled when needed and provided with doors and locks, tables, benches, racks for drawings, and FAX machine.

D. Storage & Fabrication Sheds

1. Provide and maintain on the premises, neat, weather-tight storage sheds or trailers for storage of materials which might be damaged or affected by weather or moisture.

2. Sheds shall have wood floors raised above ground.

3. Sheds and trailers shall be property of Contractor or subcontractor and be removed at completion of the Work.

4. If necessary, install fabrication sheds, sized, furnished, and equipped to accommodate work involved, including temporary utility service.

5. Fabrication sheds may be open shelters or fully enclosed spaces within building or elsewhere on Project site.

E. Dewatering Facilities & Drains

1. At all times, protect excavation, trenches, and building from damage from rain water, spring water, ground water, backing up of drains or sewers, and all other water. For temporary drainage and dewatering facilities and operations not

directly associated with construction activities included under individual Sections, comply with requirements of applicable local regulations. Where feasible, utilize permanent facilities. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds, and similar facilities.

a. Filter out excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.
b. Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of storm water from heavy rains.
c. Provide pumps and equipment and enclosures necessary for such protection.
d. Construct and maintain necessary temporary drainage and do pumping necessary to keep site free of water.

2. Cost of water control shall be borne by Contractor. Owner may, if promptly notified of adverse underground water conditions, negotiate reasonable financial relief for Contractor where such conditions could not have been reasonably determined.
3. Meet local codes and regulations for discharge of storm water from Project Site.

F. Temporary Enclosures
1. Provide temporary enclosures at exterior openings for protection of construction in progress and completed, from exposure, foul weather, other construction operations, and similar activities.

G. Project Identification & Temporary Signs
1. Prepare Project Identification and other signs to inform public and persons seeking entrance to Project.
2. Support on posts of preservative treated wood or metal.
3. No other signs or advertisements shall be displayed on building site.

H. Collection & Disposal of Waste
1. Keep premises broom clean during progress of the Work.
2. Remove waste materials and rubbish caused by employees and subcontractors installing material, and Contractors under separate contract with Owner, if any.
a. Provide adequate waste receptacles and dispose of materials when full.
b. Properly store volatile waste and remove daily.
c. Do not burn or bury waste material on site.
g. Do not discharge any hazardous, or undesirable materials to sewers, or

release toxic materials to the air.

e. Do not deposit waste into storm drains, sanitary sewers, streams, or waterways.

f. Dispose of waste in accordance with applicable laws.

3. Prior to and during process of painting and varnishing, clear area where such work is in progress of debris, rubbish, and building materials which may cause dust. Sweep floors and vacuum as required and take all possible steps to keep area dust free.

I. Scaffolding, Platforms, Stairs, Etc

1. Furnish and maintain equipment such as temporary stairs, ladders, ramps, platforms, scaffolds, hoists, runways, derricks, chutes, elevators, etc, as required for proper execution of the Work.

2. Apparatus, equipment, and construction shall meet requirements of Labor Law, safety regulations, and other applicable State or local laws.

3. Until permanent stairs are available, provide temporary stairs in lieu of ladders. Cover finished permanent stairs with protective covering of plywood or similar material so finishes will remain undamaged until time of acceptance.

3.4 SECURITY & PROTECTION FACILITIES INSTALLATION:

A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer as requested by Architect. No fires shall be built on premises.

B. Temporary Fire Protection

1. Provide a type "ABC" fire extinguisher for each work crew. Extinguishers are to be kept within easy reach of each work crew and never farther than 10 feet from some worker. Inspection tags on extinguishers shall indicate the date of last inspection.

2. Contractor's supervisor shall keep torch cutting operations to a minimum by instructing personnel to use power saws, pipe cutters, etc. It shall be the duty and responsibility of the Contractor performing any cutting or welding to comply with the safety provisions of the National Fire Codes (NFC) pertaining to such work. Contractor shall adhere to Factory Mutual Engineering and Research (FM) "Cutting and Welding" permit system. The permit system is as follows;

a. Contractor's supervisor completes the checklist of precautions listed on the permit tag. (Tags are furnished by Contractor and each tag is limited to

one day's operation. Multiple tags are to be used for scattered areas).

1) The area within approximately 35 feet of the welding/cutting operation shall be cleared of flammable liquids and materials.
2) Flammable materials may be covered with fire resistive blankets if not easily moved.
3) Special precautions shall be taken when cutting or welding near combustible walls, partitions, ceilings, or roofs.

b. Contractor's supervisor then identifies on the permit -
   1) job location,
   2) nature of work
   3) identity of welder
   4) estimated time and date work will be completed.
c. Contractor's supervisor signs permit and issues to welder.
d. Welder posts permit in the workplace.
e. Person designated as "fire watch" observes welding/cutting operation to completion.
f. Two hours after completion of the welding/cutting job during which the "fire watch" observes the area, the welder signs the permit and returns it to the supervisor. (Area is observed for fire by Contractor for a minimum of 2 hours after welding/cutting is complete at no extra charge to Owner.)
g. Contractor's supervisor requests Owner to activate smoke alarms.
h. Contractor's supervisor gives completed tag to Owner at the end of the work shift.

C. Bracing, Shoring, & Sheathing
   1. Design, furnish, and install all shoring, bracing, and sheathing as required for safety and for proper execution of the Work and have same removed if required when the Work is completed.

D. Barricades, Fences, Warning Signs, & Lights
   1. Install and maintain necessary precautions to prevent unauthorized access to the site. Protect persons on site, including members of the general public, from injury or harm, including but not limited to:
      a. Provide a 6’-0” high chain link fence at the perimeter of the site. Install gate(s) for access.
      b. Posting of appropriate warning signs in hazardous areas.
      c. Providing guardrails and barricades around obstructions, pits, trenches, and similar areas in on-site or adjacent streets, roads, sidewalks, or on site of structure itself.
      d. When use or storage of explosives or other hazardous materials or

equipment is necessary for the execution of the Work, exercise utmost care and carry on such activities under supervision of properly qualified personnel.

2. Existing Tree & Plant Protection
   a. Prior to commencing site work, erect and maintain protective fencing around existing trees and vegetation identified by Architect.
   b. Individual trees shall have protective fencing erected beyond drip line and to satisfaction of Architect.
   c. Groups of trees and other vegetation shall have protective fencing erected around entire group to satisfaction of Architect.
   d. Areas within protective fencing shall remain undisturbed and shall not be used for any purpose.
   e. Vegetation that dies or has been damaged beyond repair shall be removed and replaced by Contractor to satisfaction of Architect.
   f. Maintain existing trees and plants which are intended to remain. Vegetation that dies or is damaged beyond repair shall be removed and replaced by Contractor to satisfaction of Architect.
3. Protection Of Existing Work
   a. Protect streets, private roads, and sidewalks, including overhead protection where required, and make necessary repairs for damage thereto during course of the Work at no additional expense to Owner.
   b. Work damaged by failure to provide protection shall be removed and replaced with new work at no additional expense to Owner.
4. Protection Of Adjacent Property
   a. Provide necessary protection for adjacent property and lateral support thereof.
5. Comply with standards and code requirements for erection of structurally adequate barricades. Guardrails around openings in floors or roofs shall be at least 3'6" in height. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.

D. Security Enclosure & Lockup
   1. Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

2. Where materials and equipment must be stored, and are of value or attractive for theft, provide secure lockup. Enforce discipline in connection with installation and release of material to minimize opportunity for theft and vandalism.
3. Secure the job site at all times, have personnel on call 24 hours per day for emergencies. Protect equipment and materials and Owner's property from theft. Secure doors and openings, including roof openings.
4. Prior to a multiple day shutdown
    a. Remove all debris and leave the premises broom clean.
    b. Shut off all unnecessary electric power and water supplies.
    c. Remove all flammable liquids from the work site.
    d. Secure small tools in gang boxes.
    e. Leave drives open for emergencies.

E. Environmental Protection
1. Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize possibility that air, waterways, and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near site.
2. Remove snow and ice as may be required for proper protection and prosecution of the Work.
3. Contractor shall at all times provide protection against weather (rain, winds, storms, frost, or freeze).

3.5 OPERATION, TERMINATION, & REMOVAL:

A. Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
B. Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24 hour day 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. Unless Architect requests that it be maintained longer, remove each temporary facility when need has ended, or when replaced by authorized use of permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore

permanent construction that may have been delayed because of interference with temporary facility. Repair damaged work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor.
2. Where area is intended for landscape development, remove soil and aggregate fill that does not comply with requirements for fill or subsoil in area. Remove materials which might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances as required by governing authority.
3. At Substantial Completion, clean and renovate permanent facilities that have been used during construction period, including but not limited to -
   a. Replace air filters and clean inside of ductwork and housings.
   b. Replace significantly worn parts and parts that have been subject to unusual operating conditions.

END OF SECTION

01 62 10

PRODUCT OPTIONS

PART 28 GENERAL

28.1 SECTION INCLUDES

A. Work included in but not limited to this section.
   1. Administrative and procedural requirements governing Contractor's selection of products for use in Project.

28.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

B. Section 01 32 16 Construction Time Line Progress Schedule
Section 01 33 23 Submittal Procedures

28.3 QUALITY CONTROL

A. When Contractor is given the option of selecting between two or more products for use on Project, the product selected shall be compatible with previously selected products, even if those products were also options.

B. Except for required labels and operating data, do not attach or imprint manufacturers or producers nameplates or trademarks on any surfaces of products which will be exposed to view in occupied spaces or on building exterior.

1. Locate required product labels and stamps on concealed surface or on accessible surface that is not conspicuous when required for observation after installation.
2. Provide permanent nameplates on items of service connected or power operated equipment. Locate on easily accessible surface which is inconspicuous in occupied spaces. The nameplate shall contain following information and other essential operating data:
   a. Name of product and manufacturer
   b. Model and serial number
   c. Capacity
   d. Speed
   e. Ratings

28.4 PRODUCT DELIVERY, STORAGE & HANDLING

A. Deliver, store and handle products in accordance with the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.

1. Schedule delivery to minimize long-term storage and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged or sensitive to deterioration, theft and other losses.
3. Products are to be delivered in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
4. Inspect products upon delivery to ensure compliance with Contract Documents and to ensure that products are undamaged and properly protected.

5. Store products in a manner that will facilitate inspection and measurement of quantity or counting of units.
6. Store heavy materials away from Project structure so supporting construction will not be endangered.
7. Store products subject to damage by elements above ground, under cover in weather tight enclosures, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 29 PRODUCTS

29.1 PRODUCT SELECTION:

A. Provide products that comply with Contract Documents, are undamaged and, unless otherwise indicated, are unused at time of installation.

1. Provide products complete with accessories, trim, finish, safety guards and other devices and details needed for complete installation and for intended use and effect.

B. Product selection is governed by Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include the following:

1. Where only a single product or manufacturer is named, provide product indicated.
2. Where two or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted.
   a. Where products or manufacturers are specified by name, accompanied by term "equal as approved by Architect prior to bidding," comply with Contract Document provisions concerning "substitutions" to obtain approval by Addendum prior to bidding for use of an unnamed product.
3. When Specifications describe a product or assembly, listing exact characteristics required with or without use of brand or trade name, provide product or assembly that provides characteristics and otherwise complies with Contract requirements.
4. Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by manufacturer for application indicated. General overall performance of product is implied where product is specified for specific application.
   a. Manufacturer's recommendations may be contained in published product literature or by manufacturer's certification of performance.
5. Where specifications only require compliance with an imposed code,

standard, or regulation, select product that complies with specified standards, codes or regulations.

6. Where Specifications require matching an established Sample, the Architect's decision will be final on whether proposed product matches satisfactorily.
   a. Where no product available within specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of Contract Documents concerning "substitutions" for selection of matching product in another product category, or for noncompliance with specified requirements.
7. Where specified product requirements include the phrase "...as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select product and manufacturer that complies with other specified requirements. The Architect will select color, pattern and texture from product line selected.
8. Products and materials not specified in Contract Documents and installed in the Work shall be removed and replaced by specified products and materials at no additional cost to Owner and for no additional time added to the Contract.

PART 30 EXECUTION

3.1 INSTALLATION OF PRODUCTS:

A. Anchor each product securely in place, accurately located and aligned with other Work.

B. Clean and protect exposed surfaces as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION

017319

INSTALLATION

PART 31 GENERAL

31.1 SECTION INCLUDES

A. Work included in but not limited to this section.

1. Administrative and procedural requirements for installation, demolition and cleaning.

31.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

B. Section 01 33 23 Submittal Procedures

1.3 INSTALLATION PROVISIONS

A. Inspection of Conditions

1. Require installer of each component to inspect both substrate and conditions under which Work is to take place. Notify the Architect in writing of unsatisfactory conditions including unsutable or damaged subtrate. Do not proceed until unsatisfactory conditions have been corrected.

B. Manufacturer's Instructions

1. Comply with Manufacturer's installation instructions and recommendations to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.

C. Inspect materials or equipment immediately upon delivery and again before installation; reject damaged and defective items.

D. Provide attachment and connection devices and methods necessary for securing Work. Secure work true to line, plumb and level, with allowences for expansion, contraction and building movement.

E. Visual Effects

1. Provide uniform joint widths in exposed Work.
2. Arrange joints in exposed Work to obtain best visual effect.
3. Refer questionable choices to Architect for final decision.

F. Recheck measurements and dimensions before starting each installation.

G. Install each component during weather conditions and Project status that will ensure best possible results.

1. Isolate each part of completed construction from incompatible material as necessary to prevent deterioration or electrolysis.

H. Coordinate temporary enclosures with required inspections and tests to reduce necessity of uncovering completed construction for that purpose.

PART 32 PRODUCTS – Not Used

PART 33 EXECUTION

END OF SECTION

017413

CLEANING

PART 34 GENERAL

34.1 SECTION INCLUDES

A. Work included in but not limited to this section.

1. Administrative and procedural requirements for installation, demolition and cleaning.

34.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

B. Section 01 78 00 Closeout Submittals

Section 07 52 16 SBS Modified bitumen membrane roofing

1.3 CLEANING:

A. Progress Cleaning

1. Comply with regulations of authorities having jurisdiction and safety standards for cleaning.

2. Keep premises swept clean during progress of the Work.

3. During performance of demolition, keep building, site and adjoining streets clean and sweep areas affected by demolition operations daily. (If demolition is selective, remove all nails and trash from adjoining yards, sidewalks and streets continuously during the demolition operations. All selective demolition shall be deposited into containers, ie: dumpster, trucks, etc. and not onto the ground). As necessary, sprinkle rubbish and debris, in containers, to allay dust.
4. During handling and installation, protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from soiling, damage or deterioration until Substantial Completion. Clean and maintain completed construction as frequently as necessary throughout construction period. Adjust and lubricate operable components to ensure ability to operate without damaging effects.
6. Supervise construction activities to ensure that no part of completed construction, or construction in progress, is subject to harmful, dangerous, damaging or otherwise deleterious exposure during the construction period.
7. Before and during application of painting materials, clear area where such work is in progress of debris, rubbish, and building materials that may cause dust.
8. Collection & Disposal of Waste
    a. Remove and legally dispose of, waste materials and rubbish caused by employees, Subcontractors and Installers. Contractors under separate contract with Owner shall be responsible for removal of unsuitable or damaged materials and debris from the project property.
        1) Provide adequate waste receptacles and dispose of materials when full.
        2) Properly store volatile waste and remove daily.
        3) Do not deposit waste into storm drains, sanitary sewers, streams or waterways.
        4) Do not discharge volatile, harmful or dangerous materials into drainage systems.
    b. Do not burn waste materials. Do not bury debris or excess materials on Owner's or any other property.
9. Where extra materials of value remaining after completion of associated Work have become Owner's property, arrange for disposition of these materials as directed.

B. Final Cleaning

1. Clean each surface or unit to condition expected in normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions. Remove all rubbish from under and about building and leave building clean and habitable.
2. In addition to general cleaning noted above, perform cleaning for all trades at completion of work in areas where construction activities have occurred, including;

    b. Exterior
        1) Wash and polish outside glazing, exercising care not to scratch glass.
        2) Remove marks, stains and dirt from exterior surfaces of building.
        3) Clean and polish hardware for all trades, removing stains, dust, dirt, paint, etc.
        4) Clean fixtures and equipment and remove stains, paint, dirt and dust.
        5) Remove temporary protection systems.
        6) Clean all dirt, mud, and other foreign material from paving, sidewalks and gutters.
        7) Clean drop inlets, through-curb drains and other drainage structures.
        8) Remove trash, debris and foreign material from landscaped areas.

3. If any Contractor or Sub-contractor fails to clean as required, the Owner will do so and charge the cost to the Contractor .

PART 35 PRODUCTS – Not Used

PART 36 EXECUTION

END OF SECTION

017810

CLOSEOUT SUBMITTALS & PROCEDURES

PART 37 GENERAL

37.1 SECTION INCLUDES

A. Work included in but not limited to this section.

1. Administrative and procedural requirements for project closeout,

Including:

a. Inspection closeout and sequence procedures
b. O. & P. Manual procedures and requirements for information
c. Submittal of warranties, occupancy permits, operating certificates and similar releases

37.2 RELATED SECTIONS

A. Documents affecting work in this Section include, but are not limited to, the General Conditions, Supplementary Conditions and Division 01 General Requirements of these Specifications.

B. Section 01 33 23 Submittal Procedures
Section 01 74 13 Cleaning

37.3 CLOSEOUT PROCEDURES

A. Pre-Substantial Completion Inspections

1. At the completion of the Project, prior to the Substantial Completion Inspection, request in writing a Pre-Substantial Completion Inspection. The procedures in these following paragraphs, Completion of the Project and Final Cleaning of the Project shall be stated in the Contractor's Construction Schedule specified in Section 01 32 16 Construction Time Line Progress Schedule and shall leave sufficient time between completion of the Project and expiration of Contract time to allow for these procedures and correction of work.

2. Upon receipt of request for Pre-Substantial Completion Inspection, the Owner (if he wishes), the Architect and his Consultants (if any) will schedule and conduct a Pre-Substantial Completion Inspection in the presence of the Contractor's designated representative. A list of items to be corrected will be furnished to Contractor within three (3) days after Pre-Substantial Completion Inspection.

a. If the Architect finds the Project is not completed, upon the Contractors request, he will advise Contractor of known requirements for completion prior to scheduling the Pre-Substantial Completion Inspection.

b. The definition for Completion of a Project is all installations, equipment and Final Cleaning are 100% finished, adjusted and operating.

3. Architect will repeat inspection when requested and be assured that

the Work has been substantially completed.

4. Results of the completed Pre-Substantial Completion Inspection will form the basis of requirements for the Substantial Completion Inspection.
5. Before requesting, in writing, an inspection for Substantial Completion, complete the following items and list any exceptions in the written request.
    a. Notify Architect in writing when items have been corrected on the Pre-Substantial Completion List and receive Architect's verification of corrected items.
    b. In the Payment Request which coincides with or follows the date for Substantial Completion, show 100% completion for the Work (less retainage). Include supporting documentation for completion as specified in the Contract Documents and a statement showing an accounting of changes to Contract Sum.
    c. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, equipment check-out sheets and similar documents.
    d. Obtain and submit releases enabling Owner unrestricted use of the premises and access to services and utilities. Include required occupancy permits, operating certificates and similar releases and approvals.
    e. Submit record drawings, maintenance manuals, final project photographs, damage or settlement survey, property survey and similar final record information.
    f. Deliver tools, spare parts, extra stock and similar items.
    g. Advise Owner's personnel of change-over in security provisions.
    h. Complete start-up and testing of systems.
    i. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
    j. Discontinue or change over and remove temporary facilities from site, along with construction tools, facilities, mock-ups and similar elements.
    k. Complete Instruction of Owner's maintenance personnel. (May coincide with the Final Acceptance Meeting).

B. Substantial Completion Inspection
    1. Upon receipt of notice from the contractor, in writing that the Project is complete and the items in paragraph 1.3.A are complete, except items whose completion has been delayed because of circumstances acceptable to the Architect, the Architect will arrange a Substantial Completion Inspection to

include the Owner's representatives. The Architect will also notify the Contractor and Owner, in writing, of the date and time of inspection. Upon completion of the inspection, unless building is rejected, the Architect will prepare a Certificate of Substantial Completion. The Certificate of Substantial Completion will be executed by the Owner, Architect, and Contractor that states dates for:

a. User occupancy or acceptance
b. Commencement of warranties
c. Final acceptance meeting date and time

2. After inspection and if necessary the Architect will furnish a final list of items to be corrected.

C. Final Acceptance Meeting;

1. Before the Final Acceptance Meeting/Inspection for certification of final completion and final payment, list any exceptions in the request and be sure to complete the following:
   a. Submit final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations when required.
   b. Submit an updated final statement with accounting for final changes to the Contract Sum. Submit certified copy of Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and the list has been endorsed and dated by Architect.
   d. Submit final meter readings for utilities, measured record of stored fuel and similar data as of date of Substantial Completion or when Owner took possession of and responsibility for corresponding elements of the Work.
   e. Submit consent of surety to final payment.
2. The Final Acceptance meeting will ensure that deficiencies noted at Substantial Completion Inspection have been corrected according to terms of the Substantial Completion Certificate.
3. When all items have been corrected, the Architect will issue a letter to the Owner authorizing final payment.
4. If all items have not been corrected as agreed, Owner may elect to complete the Work under provisions of the General Conditions.

3.5 CLOSEOUT SUBMITTALS:

A. Warranties and Releases

1. Include the following items in the final closeout Manual in the order in which they are listed.
    a. Owner's Certification of Completion
    b. Inspecting Architect's Certification
    c. Certificate of Inspection – Plumbing
    d. Certificate of Inspection – Electrical
    e. List of Serial Numbers
    f. Certificate of Operation – Fire Marshall Inspection
    g. Certificate of Occupancy
    h. Certificate of Insulation
    i. Warranty on Roof
    j. All other guarantees and warranties required by the specifications.
2. When written guarantees beyond one year after substantial completion are required of any Section of the Work, Contractor shall secure such guarantees and/or warranties properly addressed and signed and in favor of the Owner. Include these documents in the Operations & Maintenance Manuals specified above.
3. Delivery of guarantees and warranties shall not relieve Contractor from any obligation assumed under any other provisions of his contract.
4. Nothing in this Section intends or implies that guarantees and/or warranties shall apply to work abused or neglected by Owner.

B. General Requirements
1. Refer to other specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately before date of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Architect for Owner's records.
2. Final payment for Project will not be made until closeout documents have been completed, submitted and approved.

C. Operations & Maintenance Manuals
1. Contractor will prepare a set of binders containing the Operations & Maintenance Data and Product Data to be submitted during course of construction.
2. Include the following information in the Operations & Maintenance Manuals:
    a. Copy of complete Project Manual including addenda and copies of other written construction documents such as Change Orders and

interpretations issued during construction

1) Mark these documents to show variations in actual Work performed in comparison with text of specifications and Modifications. Show substitutions, selection of options and similar information, particularly on elements that are concealed or cannot otherwise be readily discerned later by direct observation.
2) Note related record drawing information and Product Data.

b. Product Data
   1) One copy of each Product Data submittal as specified in Section 01 33 23 Submittal Procedures.
c. Operations & maintenance manuals required by each Division and Section of the Specifications
d. Certifications and Releases
e. Copies of specified warranties

D. Project Record Documents
1. Do not use record documents for construction purposes. Protect from deterioration and loss in secure, fire-resistive location. Provide access to record documents for Architect's reference during normal working hours.
2. Maintain clean, undamaged set of blue or black line white-prints of Contract Drawings. Mark set to show actual installation and where installation varies from the Work as originally shown. Give particular attention to concealed elements that would be difficult to measure and record at later date.
   a. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
   b. Mark new information that is important to Owner but was not shown on Contract Drawings.
   c. Note related Change Order numbers where applicable.
   d. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets and print suitable titles, dates and other identification on cover of each set.

PART 38 PRODUCTS – Not Used

PART 39 EXECUTION – Not Used

END OF SECTION

032516

LIGHTWEIGHT CONCRETE ROOF INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES:

A. Lightweight Insulating Concrete Application to Prepared Substrate

1.2 REFERENCE STANDARDS

References in these specifications to standards, test methods and codes, are implied to mean the latest edition of each such standard adopted. The following is an abbreviated list of associations, institutions, and societies which may be used as references throughout these specifications.

ASTM American Society for Testing and Materials
Philadelphia, PA

FM Factory Mutual Engineering and Research
Norwood, MA

UL Underwriters Laboratories
Northbrook, IL

1.3 QUALITY ASSURANCE

A. Acceptable Contractor: The contractor must be certified in writing prior to bid by the supplier to install the proposed lightweight insulating concrete system and shall be selected by the SBS roof installer.

B. Agency Approvals: The proposed lightweight insulating concrete system shall conform to the following requirements. No other testing agency approvals will be accepted.

1. Underwriters Laboratories: Tested by Underwriters Laboratories in accordance with the procedures of ASTM E 119 and listed in the most recent Underwriters Laboratories Fire Resistance Directory. Lightweight insulating concrete roof insulation components are defined by Underwriters Laboratories under sections CCVW for foamed plastic and CJZZ for vermiculite aggregate in the latest edition of the Underwriters Laboratories Fire Resistance Directory.

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in the supplier's original unopened packages, fully identified as to manufacturer, brand or other identifying data and bearing the proper Underwriters Laboratories label.

B. Storage: Store bagged concrete aggregate products in a dry location until ready for application. Expanded polystyrene board should not be stored in areas of standing water prior to application but can be exposed to rainwater before application. Boards must be clean and free from foreign substances.

1.5 PROJECT/SITE CONDITIONS

A. Requirements Prior to Job Start

1. Notification: Give a minimum of 5 days' notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.

2. Permits: Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.

3. Safety: Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

B. Environmental Requirements

1. Precipitation: Do not apply materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials and building interiors are protected from possible moisture damage or contamination.

2. Temperature Restrictions: When air temperatures of 40ºF (4.4ºC) or above are predicted to occur within the first 24 hours after placement, normal mixing and application procedures may be used. When air temperatures of 32ºF to 40ºF (0ºC - 4.4ºC) are predicted to occur within the first 24 hours after placement, warm water may be used. The mix temperature should not exceed 100 degrees Fahrenheit (37.8ºC) at the point of placement. Do not install the lightweight insulating concrete system when air temperatures are below 32ºF (0ºC).

1.6 WARRANTY/GUARANTEE

A. Roof System Guarantee: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the roof system manufacturer's 20 year labor and materials roof system guarantee. The roof system guarantee shall include both the roofing and flashing membranes, and the specified new lightweight insulating concrete system consisting of aggregate fill, patented-pre-formed polystyrene panels, and base sheet fasteners. All repair or replacement costs covered under the guarantee shall be borne by the roofing membrane manufacturer. The guarantee shall be a term type, without deductibles or limitations on coverage amount, and be issued at no additional cost to the Owner. Specific items covered under the roof system guarantee include:

1. The actual resistance to heat flow through the roof insulation will be at least 80% of the design thermal resistance, provided that the roofing membrane is free of leaks;

2. Should a roof leak occur, the insulating performance of the roof insulation will be at least 80% of the design thermal resistance within a 2 year period following repair of the leak.

3. The roof insulation will remain in a re-roofable condition should the roof membrane require replacement (excluding damage caused by fastener pullout during removal of the old membrane.)

4. The roof insulation material will not cause structural damage to the building as a result of expansion from thermal or chemical action.

> 20 Year Roof System Guarantee

PART 2: PRODUCTS

2.1 MATERIALS

A. Acceptable Manufacturer: Provide a lightweight insulating concrete roof insulation system incorporating vermiculite aggregate and expanded polystyrene board supplied by a single manufacturer.
1. NVS and Zic Roof Insulation System by Siplast, Inc., Irving, TX
2. The Strong Company, Inc
3. Or Equal

2.2 SYSTEM DESCRIPTION

A. Lightweight Concrete System Description: Provide materials used in the lightweight concrete roof insulation system conforming to the following;

1. Portland Cement: Portland cement conforming to Type I, II, or III as defined by ASTM C 150.
2. Vermiculite Aggregate: Vermiculite concrete aggregate conforming to ASTM C 332.
3. Expanded Polystyrene Insulation Board: Expanded polystyrene (EPS) insulation board having a nominal density of 1 pcf (16 kg/m³) defined as Type I by ASTM C 578 and containing approximately 3% open area. Each bundle of board shall be delivered to the job site with clear identification as to manufacturer and shall carry the Factory Mutual approval label and the Underwriter's Laboratories Classified label on each bundle.
4. Water: Potable water that is clean and free of deleterious amounts of acid, alkali and organic materials.

2.3 MIX DESIGN

A. Density: Mix Portland cement and vermiculite concrete aggregate in 1:3.5 volume ratio with water to achieve a wet density ranging from 60 to 68 pcf (960 to 1089 kg/m³), resulting in a minimum dry density of 35 pcf (561 kg/m³), and minimum compressive strength of 300 psi (2068 kPa).

PART 3: EXECUTION

3.1 EXAMINATION

A. General: Ensure that all surfaces to receive lightweight insulating concrete are free of oil, grease, paints/primers, loose mill scale, dirt, or other foreign substances. Where necessary, cleaning or other corrections of surfaces to receive lightweight insulating concrete is the responsibility of the party causing the unacceptable condition of the substrate.

B. Substrate Acceptance: With the general contractor present, examine surfaces to receive the roof insulation system and determine that the surfaces are acceptable prior to placement of the lightweight insulating concrete system.

3.2 PREPARATION

A. General: Remove water or any other substance that would interfere with bonding of the lightweight concrete system.

3.3 APPLICATION

A. General: Provide equipment and application procedures conforming to the material supplier's application instructions.
B. Applications Not Incorporating Expanded Polystyrene Panels: Place lightweight insulating concrete in a 1 inch (25 mm) minimum thickness over the top of a temporary roof.
C. Applications Incorporating Expanded Polystyrene Panels: When the specified expanded polystyrene insulation panels are to be incorporated into the lightweight insulating concrete system, place a 1/8 inch (3 mm) minimum thickness of insulating concrete slurry coat over top of the prepared substrate. Place the thickness of expanded polystyrene insulation panels shown in the approved shop drawings within 30 minutes of applying the insulating concrete slurry coat to the substrate. The maximum allowable panel step in a stair-step design is 1 inch (25 mm). Fill the holes in the expanded polystyrene insulation panels and place a 1 inch (25 mm) minimum thickness of insulating concrete over top of the expanded polystyrene insulation panels within the same day's application.
D. Thermal Resistance: Install the specified lightweight insulating concrete system to provide for a minmum thermal value of R 25 - or as shown on the architectural details/drawings.
E. Slope: Install the specified lightweight insulating concrete system to provide for a minimum positive roof slope of 1/8 inch per foot. See the structural drawings for slope provided by the roof framing system.

3.4 FIELD QUALITY CONTROL

A. Protection: Avoid roof-top traffic over the roof insulation system until one can walk over the surface without creating surface damage.
B. Compressive Strength Testing: The Architect has the option to select an independent testing laboratory to randomly sample the top placement of insulating concrete to verify the thickness and density, and to secure and test compressive strength cylinders in accordance with ASTM C 495. The Owner will be responsible for the cost and engagement of the independent testing laboratory services.
C. Application Monitoring: Monitor the thickness and wet density of the lightweight insulating concrete at the time of placement to determine conformance to the manufacturer's requirements. Monitor the placement of proper thickness of polystyrene insulation board in accordance with the contract documents.

D. Fastener Withdrawal Testing: Conduct a base ply fastener pull test 3 or more days following the application of the lightweight insulating concrete to ensure a minimum withdrawal resistance of 40 pounds (18 kg) per fastener.

3.5 PATCHING

A. Patching: Perform all patching and repairing of insulating concrete using Zono-Patch or other materials approved by the lightweight insulating concrete system manufacturer.

END OF SECTION

071800

PEDESTRIAN AND TRAFFIC COATING

PART I GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

1.2.1 Section Includes: Concrete substrate preparation and waterproofing system consisting of a reinforced cold, fluid-applied, PMMA, pedestrian, vehicular traffic waterproofing membrane and associated flashings.

1.3 REFEREENCE STANDARDS

1.3.1 American Society for Testing and Materials (ASTM)

1.3.2 National Institute for Occupational Safety and Health (NIOSH)

1.3.3 International Concrete Reapir Institute (ICRI)

1.3.4 American Concret Institute (ACI)

1.3.5 Occupational Health and Safety Administration (OSHA)

1.4 DEFINITIONS

1.4.1 Waterproofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of waterproofing terms related to this section.

1.5 SUBMITTALS

1.5.1 Product and material safety data sheets for each product proposed for use.

1.5.2 SAMPLES FOR VERIFICATIONS

1.5.2.1 Two samples of the primary waterproofing and flashing materials.

1.5.3 SHOP DRAWINGS

1.5.3.1 Base flashings, membrane terminations, expansion and control joints

1.6 INFORMATIONAL SUBMITTALS

1.6.1 Latest edition of the waterproofing system manufacturer's specifications and installation instructions.

1.6.2 Letter from the primary system manufacturer stating that the proposed application will comply with the manufacturer's requirements in order to qualify the project for the specified guarantee.

1.6.3 Letter from the proposed primary system manufacturer confirming that the bidder is an acceptable Contractor authorized to install the proposed system.

1.6.4 Sample copy of the specified guarantee.

1.7 SUBMITALS OF EQUALS

1.7.1 Submit waterproofing systems to be considered as equals to the basis of design as outlined herein no less than 10 days prior to bid date. Primary waterproofing systems that have been reviewed and accepted as equals to the specified waterproofing system will be listed in an addendum prior to bid date; only then will equals be accepted at bidding. All submittal packages for equals to be considered shall comply with the submittal requirements outlined herein.

1.8 CLOSE OUT SUBMITTALS

1.8.1 Repair and Maintenance guide outlining roofing care and maintenance required in order to maintain the guarantee.

1.8.2 Guarantee, as specified herein.

1.9 QUALITY ASSURANCE

1.9.1 Acceptable Contractor: Contractor shall be certified in writing by the waterproofing materials manufacturer to install the primary waterproofing products.

1.9.2 Project Acceptance: Submit a completed manufacturer's application for waterproofing guarantee form along with shop drawings of areas to receive waterproofing, showing all dimensions, penetrations, and details. The form shall contain all the technical information applicable to the project. The form shall also contain accurate and complete information requested including proper names, addresses, zip codes and telephone numbers. The project must receive approval by the membrane manufacturer, through this process, prior to shipment of materials to the project site.

1.9.3 Local Regulations: Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.

1.9.4 Manufacturer Requirements: The primary materials manufacturer shall provide trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conduct a final inspection upon successful completion of the project.

1.9.5 Regulatory Requirements: Comply with applicable Volatile Organic Compounds (VOCs) regulations

1.10 DELIVERY, HANDLING AND STORAGE

1.10.1 Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.

1.10.2 Storage: Store closed containers in a cool, dry, well ventilated area away from heat, direct sunlight, oxidizing agents, strong acids, and strong alkalis. Keep products away from open fire, flame or any ignition source. Store temperature sensitive products at temperatures recommended by the manufacturer. Quartz silica (sand) must be kept dry during storage and handling.

1.10.3 Damaged Material: Any materials that are found to be damaged or stored in any manner other than stated above will be rejected, removed and replaced at the Contractor's expense.

1.10.4 Handling: Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Keep away from open fire, flame, or any ignition source. Vapors may form explosive mixtures with air. Avoid skin and eye contact with this material. Avoid breathing fumes. Do not eat, drink, or smoke in the application area. Workers shall wear long

sleeve shirts, long pants and work boots. Workers shall wear butyl rubber or nitrile gloves when mixing or applying this product. Safety glasses with side shields shall be used for eye protection. Use local exhaust ventilation to maintain worker exposure below TLV as listed on MSDS for respective products. If the airborne concentration poses a health hazard, becomes irritating or exceeds recommended limits, use a NIOSH approved respirator in accordance with OSHA Respirator Protection requirements under 29 CFR 1910.134. The specific type of respirator will depend on the airborne concentration. A filtering face piece or dust mask is not acceptable for use with this product if TLV filtering levels have been exceeded.

1.11 PROJECT CONDITIONS

1.11.1 Requirements Prior to Job Start

1.11.1.1Notification: Give a minimum of 5 days notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.

1.11.1.2Permits: Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.

1.11.1.3Safety: Familiarize every member of the application crew with safety regulations recommended by OSHA and other industry or local governmental groups.

1.11.2 ENVIRONMENTAL REQUIREMENTS

1.11.2.1Precipitation: Do not apply materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied membrane, and building interiors are protected from possible moisture damage or contamination.

1.11.2.2Temperature Restrictions: PMMA-based Materials: Do not apply catalyzed resin materials if there is a threat of inclement weather. Follow the resin manufacturer's specifications for minimum and maximum ambient, material and substrate temperatures. Do not apply catalyzed resin materials unless ambient and substrate surface temperatures fall within the resin manufacturer's published range.

1.11.3 PROTECTION REQUIREMENTS

1.11.3.1Protection: Provide protection against staining and mechanical damage for newly applied waterproofing and adjacent surfaces throughout this project.

1.11.3.2Limited Access: Prevent access by the public to materials, tools, and equipment during the course of the project.

1.11.3.3Debris Removal: Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.

1.11.3.4Site Condition: Complete, to the Owner's satisfaction, all jobsite clean-up including building interior, exterior, and landscaping where affected by the construction.

1.12 WARRANTY

1.12.1 Assembly Letter: Submit an assembly letter executed by an authorized representative of the waterproofing membrane system manufacturer, indicating that the manufacturer has reviewed drawings and specifications, conditions affecting work and relationship of waterproofing membrane system with related work, and that manufacturer proposes to provide warranty as referenced herein without further stipulation.

1.12.2 Manufacturer’s Warranty:

1.12.2.1Roof Guarantee: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the owner with the manufacturer's ten (10) year Terapro Waterproofing Membrane labor and materials guarantee. The guarantee shall be a term type, without deductibles or limitations on coverage amount, and shall be issued at no additional cost to the owner.

1.12.3 Owner’s Instructions

1.12.3.1Care and Maintenance: Provide manufacturer’s written Roof and Maintenance Guide for maintenance of roof system including, inspection schedules, trouble shooting, early signs of a potential problem and temporary emergency repairs.

2 PRODUCTS

2.1 MANUFACTURER

2.1.1 Subject to compliance with specified criteria, provide primary waterproofing membrane system components manufactured by one (1) of the following:

2.1.1.1 Siplast, Basis of Design

2.1.1.2 Garland

2.1.1.3 Tremco

2.2 MATERIALS

2.2.1 Use primers, adhesives, paints, coatings and sealants that comply with all applicable, and relevant and appropriate VOC limits.

2.2.2 PRIMERS

2.2.2.1 Primer for Masonry and Vertical Concrete Substrates

2.2.2.1.1 A fast-curing PMMA-based primer for use over masonry, concrete repair materials and vertical concrete substrates

2.2.2.1.1.1 Pro Primer W by Siplast

2.2.2.2 Primer for Wood and Plywood Substrates

2.2.2.2.1 A fast-curing PMMA-based primer for use in over wood, plywood and rigid insulation substrates.

2.2.2.2.1.1 Pro Primer W by Siplast

2.2.2.3 Primer for Horizontal Concrete Substrates

2.2.2.3.1 A fast-curing PMMA-based primer for use over horizontal concrete substrates.

2.2.2.3.1.1 Pro Primer T by Siplast

2.2.2.4 Moisture Mitigation Primer for Oil-Contaminated, High Moisture Content Substrates

2.2.2.4.1 General: If concrete substrate evaluation reveals moisture contents that exceed the minimum values outlined in Section 3.1C, the use of a moisture mitigation primer is required.

2.2.2.4.2 A two-component, moisture tolerant, extremely high density, chemically enhanced epoxy based product which reduces the passage of vapor and prevents capillary infiltration of oil or other chemicals from the ground and can be used to treat oil-contaminated slabs.

2.2.2.4.2.1 Vaportight Coat – SG2 by Aquafin

2.2.2.5 Moisture Mitigation Primer for High Moisture Content Substrates

2.2.2.5.1 General: If concrete substrate evaluation reveals moisture contents that exceed the minimum values outlined in Section 3.1C, the use of a moisture mitigation primer is required.

2.2.2.5.2 A two-component, moisture tolerant, low viscosity, solvent free, chemically enhanced epoxy based product which reduces the passage of water vapor and moisture through concrete slabs on or below grade.

2.2.2.5.2.1 Vaportight Coat – SG3 by Aquafin

2.2.2.6 Moisture Mitigation Primer for High Moisture Content Substrates

2.2.2.6.1 General: If concrete substrate evaluation reveals moisture contents that exceed the minimum values outlined in Section 3.1C, the use of a moisture mitigation primer is required.

2.2.2.6.2 A unique combination of epoxy resins and other chemical substances specifically formulated to overcome the poor long-term adhesion properties of most resin-based systems when curing in an environment of constant wetness, extreme alkalinity, and water vapor drive

2.2.2.6.2.1 Koester VAP 1 2000 by Koesters American Corporation

2.2.3 RESIN FOR WATERPROOFING MEMBRANE CONSTRUCTION

2.2.3.1.1 A flexible, PMMA-based resin for use in combination with fleece fabric to form a monolithic, reinforced waterproofing membrane.

2.2.3.1.1.1 Terapro Base Resin by Siplast

2.2.4 RESIN FOR FLASHING MEMBRANE CONSTRUCTION

2.2.4.1 A flexible, PMMA-based resin combined with a thixotropic agent for use in combination with non-woven, needle-punched polyester fabric reinforcement to form a monolithic, reinforced flashing membrane.

2.2.4.1.1 Terapro Flashing Resin by Siplast

2.2.5 Fleece for Field and Flashing Membrane Reinforcement

2.2.5.1 A non-woven, 110 g/m², needle-punched polyester fabric reinforcement as supplied by the membrane system manufacturer.

2.2.5.1.1 Pro Fleece by Siplast

2.2.6 Waterproofing/Wearing Layer Resin

2.2.6.1 A PMMA-based resin combined with aggregate filler to provide a waterproofing/wearing layer in a reinforced or unreinforced PMMA waterproofing system.

2.2.6.1.1 Terapro VTS Resin

2.2.7 Waterproofing/Wearing Layer Aggregate Filler

2.2.7.1 A quartz aggregate blend/filler added to the waterproofing/wearing layer resin to produce a PMMA-based resin/aggregate slurry waterproofing/wearing layer.

2.2.7.1.1 Terapro VTS Aggregate Filler by Siplast

2.2.8 Resin Accessories

2.2.8.1 Cleaning Solution/Solvent

2.2.8.1.1 A clear solvent used to clean and prepare transition areas of in-place catalyzed resin to receive subsequent coats of resin and to clean substrate materials to receive resin.

2.2.8.1.1.1 Pro Prep by Siplast

2.2.8.2 Preparation Paste

2.2.8.2.1 A PMMA-based paste used for remediation of depressions in substrate surfaces or other irregularities.

2.2.8.2.1.1 Pro Paste Resin by Siplast

2.2.8.3 Repair Mortar

2.2.8.3.1 A two-component, PMMA-based, aggregate filled mortar used for patching concrete substrates.

2.2.8.3.1.1 Pro Repair Mortar by Siplast

2.2.8.4 Repair Mortar

2.2.8.4.1 A two-component, PMMA-based, aggregate filled mortar used for patching concrete substrates.

2.2.8.4.1.1 Pro Thixo by Siplast

2.2.8.5 Color Finish Resin

2.2.8.5.1 A pigmented, PMMA-based resin for used to provide a color finish for both field and flashing membranes.

2.2.8.5.1.1 Pro Color Finish by Siplast

2.2.8.6 Natural Quartz Anti-Skid Surfacing

2.2.8.6.1 A natural-colored, kiln-dried, quartz aggregate suitable for broadcast into a PMMA-based resin wearing layer.

2.2.8.6.1.1 Pro Natural Quartz by Siplast

2.2.8.7 Accent Chips

2.2.8.7.1 A pigmented flake used to create a variegated aesthetic and to break up the monolithic appearance of a solid color finish.

2.2.8.7.1.1 Pro Accent Chips by Siplast

2.2.9 Metal Flashings: Per Flashing and Sheet Metal: Division 7.

3 EXECUTION

3.1 SUBSTRATE EXAMINATION

3.1.1 General: Ensure that substrates are free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, bituminous products, release agents, laitance, paint, loose particles/friable matter, rust or any other material that would be detrimental to adhesion of the catalyzed primer and/or resin to the substrate. Some surfaces may require scarification, shot-blasting, or grinding to achieve a suitable substrate.

3.1.2 Concrete Substrate Requirements: Structural concrete shall be cured a minimum of 28 days in accordance with ACI-308, have a minimum compressive strength of 3,500 psi (24 N/mm^2) and have a moisture content that conforms with the waterproofing system manufacturer's requirements prior to commencement of work.

3.1.3 Moisture Content Evaluation: Evaluate the level of moisture in the substrate to determine that the moisture content is acceptable for application of the specified waterproofing system. Concrete substrates shall have a maximum moisture content of 6% by weight and a maximum internal relative humidity of 75%.

3.1.4 Adhesion Testing for Concrete Substrates to Receive Resin Materials: Test the concrete substrate using a device conforming to ASTM D 4541 using a 50 mm dolly adhered with the specified catalyzed primer. Utilize the same concrete preparation methods as that which will be used prior to application of the waterproofing for areas to be evaluated for adhesion. Ensure that a minimum adhesion value of 220 psi is obtained before application of the PMMA-based primer. If multiple areas or substrates are involved in the scope of work, evaluate each to determine suitability. Maintain testing/evaluation records.

3.2 SUBSTRATE PREPERATION FOR PMMA MEMBRANE INSTALLATION

3.2.1 PROTECTION

3.2.1.1 Provide protection to prevent dust/debris accumulation, spillage and resin overruns.

3.2.2 Cleaning

3.2.2.1 Remove oil and grease with a commercial grade cleaner; thoroughly rinse and dry. Sweep, blow, or vacuum loose surface debris in areas to receive resin.

3.2.3 Taping:

3.2.3.1 Utilize masking tape at perimeters and joints of the area to be waterproofed to provide neat terminations.

3.2.4 Masonry Walls

3.2.4.1 Shot-blast or grind concrete or masonry wall surfaces to provide a sound substrate free from laitance and all residue from bitumen, coal tar, primer, coatings, adhesives, sealer or any material that may inhibit adhesion. Before application of the waterproofing flashing system, and after priming, fill cracks, voids, fractures, depressions, small indentations, and low areas in the substrate using the specified paste. The use of paste or sealant is not an acceptable alternative to repointing mortar joints. Do not apply waterproofing materials over soft or scaling brick or masonry, faulty mortar joints, or walls with broken, damaged or leaking coping components.

3.2.5 Preparation of Newly Placed Concrete Substrates to Receive a Direct Application of Resin Materials

3.2.5.1 Newly placed concrete shall be cured a minimum of 28 days in accordance with ACI-308, and have a minimum compressive strength of 3,500 psi (24 N/mm^2). Following evaluation for moisture content and confirmation that the moisture content is at a acceptable level, shot-blast or scarify/shot blast the surface to provide a sound substrate free from laitance and to generate a concrete surface profile of CSP-2 to CSP-4 as defined by the ICRI. Grinding may be used as a preparation method for localized areas that cannot be reached by a shot blasting equipment provided that a surface profile of CSP-2 to CSP 4 can be generated. Repair spalls and voids on vertical or horizontal surfaces using the specified primer and preparation paste.

3.2.6 Preparation of Existing Concrete/Masonry Substrates to Receive Resin Materials

3.2.6.1 Existing concrete substrates shall have a minimum compressive strength of 3,500 psi (24 N/mm^2). Following evaluation for moisture content and confirmation that the moisture content is at an acceptable level, shot blast or scarify/shot-blast concrete or masonry surfaces to provide a sound substrate free from laitance and residue from bitumen, coal tar, primer, coatings, adhesives, sealer or any material that may inhibit adhesion of the specified primer. Generate a concrete surface profile of CSP-2 to CSP-4 as defined by the ICRI. Grinding may be used as a preparation method for localized areas that cannot be reached by a shot blasting equipment

provided that a surface can be prepared to a CSP-2 to CSP 4. Repair spalls and voids on vertical or horizontal surfaces using the specified primer and preparation paste.

3.2.7 Repair and Leveling of Concrete Substrate to Receive Resin Materials

3.2.7.1 Before application of the roofing membrane, and after priming, fill all joints, cracks, voids, fractures, depressions, small indentations, and low areas in the substrate using the specified paste or repair mortar.

3.2.8 Static Crack and Cold Joint Preparation

3.2.8.1 Clean cracks/joints and treat with the specified PMMA primer. Fill the cracks and joints using the specified preparation. Following priming, reinforce the area surrounding the crack/joint using a 6 inch wide treatment of flashing resin/reinforcing fleece/flashing resin. The crack treatment shall be centered over the crack/joint

3.2.8.2 Clean cracks/joints and treat with the specified PMMA primer. Fill the cracks and joints using the specified preparation paste prior to membrane/flashing application.

3.2.9 Plywood Substrate Preparation

3.2.9.1 Prime ACX plywood surfaces, including vertical surfaces at joints, using the specified primer prior to the application of the waterproofing membrane. Fill joints using the specified paste, and reinforce the joints with a 6 inch (15 cm) wide strip of resin/fleece/resin.

3.2.10 Rigid Plastic Flashing Substrates

3.2.10.1Evaluate the plastic for compatibility with the resin materials. Clean plastic substrates using the specified the cleaner/solvent and allow to dry. Lightly abrade the surface to receive the flashing system. Extend the preparation area a minimum of 1/2 inch (13 mm) beyond the termination of the flashing system.

3.2.11 Preparation of Steel/Aluminum Substrates

3.2.11.1Grind to generate a "white-metal" surface and remove loose particles. Extend preparation area a minimum of 1/4-inch (6 mm) beyond the termination of the waterproofing/flashing system. Notch steel surfaces to provide a rust-stop where detailed.

3.3 PMMA MEMBRANE INSTALLATION

3.3.1 Mixing of Resin Products

3.3.1.1 Preparation/Mixing/Catalyzing Resin Products: Pour the desired quantity of resin into a clean container and using a spiral mixer or mixing paddle, stir the liquid for the time period specified by the resin manufacturer. Calculate the amount of catalyst powder needed using the manufacturer's guidelines and add the pre-measured catalyst to the resin component. Mix again for the time period specified by the resin manufacturer, ensuring that the product is free from swirls and bubbles. To avoid aeration, do not use a spiral mixer unless the spiral section of the mixer can be fully contained in the liquid during the mixing process. Mix only enough product to ensure that it can be applied before pot life expires.

3.3.2 Preparation Paste and Primer Mixing / Application

3.3.2.1 Primer Application: Apply primer resin using a roller or brush at the rate specified by the primer manufacturer over qualified and prepared substrates. Apply primer resin at the increased rate specified by the primer manufacturer over DensDeck Prime or other porous substrates. Do not let resin pool or pond. Do not under-apply or over-apply primers as this may interfere with proper primer catalyzation. Make allowances for waste, including saturation of roller covers and application equipment.

3.3.2.2 Paste Application: Apply catalyzed preparation paste using a trowel over prepared and primed substrates. Before application of any resin product over cured paste, wipe the surface of the paste using the specified cleaner/solvent and allow to dry. Treat the surface again if not followed up by resin application within 60 minutes.

3.3.3 FLASHING AND MEMBRANE APPLICATION

3.3.3.1 Base Flashing Application

3.3.3.1.1 Using masking tape, mask the perimeter of the area to receive the flashing system. Apply resin primer to substrates requiring additional preparation and allow primer to cure.

3.3.3.1.2 Pre-cut fleece to ensure a proper fit at transitions and corners prior to membrane application.

3.3.3.1.3 Apply an even, generous base coat of flashing resin to prepared surfaces using a roller at the rate specified by the resin manufacturer. Work the fleece into the wet, catalyzed resin using a brush or roller to fully embed the fleece in the resin and remove trapped air. Lap fleece layers a minimum of 2 inch (5 cm) and apply an additional coat of catalyzed resin between layers of overlapping fleece. Again using a roller, apply an even top coat of catalyzed resin immediately following embedment of the fleece at the rate specified by the resin manufacturer, ensuring that the fleece is fully saturated. Ensure that the flashing resin is applied to extend beyond the fleece (maximum ¼-inch (6 mm)).

Remove the tape before the catalyzed resin cures. Make allowances for waste, including saturation of roller covers and application equipment.

3.3.3.1.4 Should work be interrupted for more than 12 hours or the surface of the cured resin becomes dirty or contaminated by the elements, wipe the surface to be lapped with new flashing resin using the specified cleaner/solvent. Allow the surface to dry for a minimum 20 minutes and a maximum 60 minutes before continuing work.

3.3.3.2 FIELD MEMBRANE APPLICATION

3.3.3.2.1 Using the specified cleaner/solvent, wipe flashing membrane surfaces to be lapped with field membrane. Allow the surface to dry for a minimum 20 minutes before continuing work.

3.3.3.2.2 Apply an even, generous base coat of field membrane resin to prepared surfaces using a roller at the rate specified by the resin manufacturer. Work the fleece into the wet, catalyzed resin using a brush or roller to fully embed the fleece in the resin and remove trapped air. Lap fleece layers a minimum of 2 inch (5 cm) and apply an additional coat of catalyzed resin between layers of overlapping fleece.Again using a roller, apply an even top coat of catalyzed resin immediately following embedment of the fleece at the rate specified by the resin manufacturer, ensuring that the fleece is fully saturated. Ensure that the flashing resin is applied to extend beyond the fleece (maximum ¼-inch (6 mm)). Make allowances for waste, including saturation of roller covers and application equipment. Allow 2 hours cure time prior to exposing the membrane to foot traffic.

3.3.3.3 Application of Reinforced Quartz-Surfaced Waterproofing System over Prepared Substrates

3.3.3.3.1 Using cleaner/solvent, wipe flashing membrane and primer surfaces to receive the field membrane. Allow the surface to dry for a minimum 20 minutes before continuing work.

3.3.3.3.2 Using a roller, apply a layer of catalyzed base resin over the primed substrate at the minimum rate specified by the resin manufacturer. Embed the fleece reinforcement into the wet, catalyzed base resin waterproofing layer using a wet, but not saturated, roller to remove trapped air. Overlap side and end laps of the fleece a minimum of 2 inches (51 mm). Apply an additional coat of catalyzed base resin between layers of overlapping fleece. Apply a second coat of catalyzed resin immediately following the embedment of the fleece with an application roller or brush at the minimum rate specified by the resin manufacturer, ensuring full saturation of the fleece reinforcement. Allow to cure for a minimum of 45 minutes before application of the wearing layer of resin.

3.3.3.3.3 Apply a layer of catalyzed waterproofing resin/aggregate filler mixture using a trowel at the minimum rate specified by the waterproofing system manufacturer. Use a spiked roller to remove trowel marks and to even the application of the waterproofing resin/aggregate filler mixture.

3.3.3.3.4 Immediately broadcast natural quartz into the wet waterproofing layer/aggregate filler mixture to refusal. Allow to cure for 2 hours. Sweep excess quartz from the surface.

3.3.3.3.5 Apply color finish using a roller or squeegee at the rate specified by the resin manufacturer.

3.3.3.3.6 Make allowances for saturation of roller covers and application equipment when calculating resin application rates.

3.3.3.3.7 If work is interrupted for more than 12 hours, or the surface of a catalyzed resin layer becomes dirty or contaminated from exposure to the elements, thoroughly clean the area with cleaner/solvent. Allow a minimum of 20 minutes for the solvent to evaporate before continuing work. Complete the next application procedure within 60 minutes following the evaporation of the cleaner/solvent.

3.3.3.4 Application of Reinforced Chip-Surfaced Waterproofing System over Prepared Substrates

3.3.3.4.1 Using cleaner/solvent, wipe flashing membrane and primer surfaces to receive the field membrane. Allow the surface to dry for a minimum 20 minutes before continuing work.

3.3.3.4.2 Using a roller, apply a layer of catalyzed base resin over the primed substrate at the minimum rate specified by the resin manufacturer. Embed the fleece reinforcement into the wet, catalyzed base resin waterproofing layer using a wet, but not saturated, roller to remove trapped air. Overlap side and end laps of the fleece a minimum of 2 inches (51 mm). Apply an additional coat of catalyzed base resin between layers of overlapping fleece. Apply a second coat of catalyzed resin immediately following the embedment of the fleece with an application roller or brush at the minimum rate specified by the resin manufacturer, ensuring full saturation of the fleece reinforcement. Allow to cure for a minimum of 45 minutes before application of the wearing layer of resin.

3.3.3.4.3 Apply a layer of catalyzed waterproofing resin/aggregate filler mixture using a trowel at the minimum rate specified by the waterproofing system manufacturer. Use a spiked roller to remove trowel marks and to even the application of the waterproofing resin/aggregate filler mixture. Following cure, smooth the surface of the catalyzed waterproofing resin/aggregate filler mixture using the sharp edge of a trowel, sandpaper or a fine-surfaced wheel.

3.3.3.4.4 Inspect the surface of the cured resin/aggregate filler mixture to identify low or uneven areas. Clean identified areas with cleaner/solvent and allow a minimum of 20

minutes for the solvent to evaporate. Apply paste to level or smooth low or uneven areas. Allow the paste to cure for a minimum of 60 minutes before installation of the color finish layer.

3.3.3.4.5 Apply a layer of color finish using a prepared roller over the catalyzed resin/aggregate filler mixture at the minimum rate specified by the waterproofing system manufacturer.

3.3.3.4.6 Immediately broadcast the chip/silica blend into the wet color finish using a hopper gun at the minimum rate specified by the waterproofing system manufacturer. Allow to cure for a minimum 2 hours and remove loose chips using a blower or vacuum. Sweep excess chips from the surface.

3.3.3.4.7 Apply clear finish using a prepared roller over the embedded chip/silica surface at the rate specified by the waterproofing system manufacturer.

3.3.3.4.8 If work is interrupted for more than 12 hours, or the surface of a catalyzed resin layer becomes dirty or contaminated from exposure to the elements, thoroughly clean the area with cleaner/solvent. Allow a minimum of 20 minutes for the solvent to evaporate before continuing work. Complete the next application procedure within 60 minutes following the evaporation of the cleaner/solvent.

3.3.3.5 Application of Unreinforced Quartz-Surfaced Waterproofing System over Prepared Substrates:

3.3.3.5.1 Using cleaner/solvent, wipe flashing membrane and primer surfaces to receive the field membrane. Allow the surface to dry for a minimum 20 minutes before continuing work.

3.3.3.5.2 Apply a layer of catalyzed waterproofing resin/aggregate filler mixture using a trowel at the minimum rate specified by the waterproofing system manufacturer. Use a spiked roller to remove trowel marks and to even the application of the waterproofing resin/aggregate filler mixture.

3.3.3.5.3 Immediately broadcast natural quartz into the wet waterproofing layer/aggregate filler mixture to refusal. Allow to cure for 2 hours. Sweep excess quartz from the surface.

3.3.3.5.4 Apply color finish using a roller or squeegee at the rate specified by the resin manufacturer.

3.3.3.5.5 Make allowances for saturation of roller covers and application equipment when calculating resin application rates.

3.3.3.6 Application of Unreinforced Chip-Surfaced Waterproofing System over Prepared Surfaces

3.3.3.6.1 Using cleaner/solvent, wipe flashing membrane and primer surfaces to receive the field membrane. Allow the surface to dry for a minimum 20 minutes before continuing work.

3.3.3.6.2 Apply a layer of catalyzed waterproofing resin/aggregate filler mixture using a trowel at the minimum rate specified by the waterproofing system manufacturer. Use a spiked roller to remove trowel marks and to even the application of the waterproofing resin/aggregate filler mixture. Following cure, smooth the surface of the catalyzed waterproofing resin/aggregate filler mixture using the sharp edge of a trowel, sandpaper or a fine-surfaced wheel.

3.3.3.6.3 Inspect the surface of the cured resin/aggregate filler mixture to identify low or uneven areas. Clean identified areas with cleaner/solvent and allow a minimum of 20 minutes for the solvent to evaporate. Apply paste to level or smooth low or uneven areas. Allow the paste to cure for a minimum of 60 minutes before application of the color finish layer.

3.3.3.6.4 Apply color finish using a prepared roller over the catalyzed resin/aggregate filler mixture at the minimum rate specified by the waterproofing system manufacturer.

3.3.3.6.5 Immediately broadcast the chip/silica blend into the wet color finish using a hopper gun at the minimum rate specified by the waterproofing system manufacturer. Allow to cure for a minimum 2 hours and remove loose chips using a blower or vacuum. Sweep excess chips from the surface.

3.3.3.6.6 Apply a layer of clear finish using a prepared roller over the embedded chip/silica surface at the minimum rate specified by the waterproofing system manufacturer.

3.3.3.7 Application of Color Finish over Flashings

3.3.3.7.1 Mask the previously applied horizontal surfaces and install a layer of the specified color finish with a prepared roller over the flashing system on vertical surfaces at the minimum rate specified by the waterproofing system manufacturer.

3.3.3.8 Color Finish Application

3.3.3.8.1 Ensure the field and flashing membrane has been in place for a minimum 2 hours. Using the specified cleaner/solvent, wipe field membrane surfaces to receive the color finish layer. Allow the surface to dry for a minimum 20 minutes before continuing work.

3.3.3.8.2 Apply an even top coat of catalyzed color finish resin at the rate specified by the resin manufacturer. Allow 2 hours cure time prior to exposing the membrane to foot traffic.

3.4 Field Quality Control

3.4.1 Site Condition. All areas around job site shall be free of debris, waterproofing materials, equipment, and related items after completion of job.

3.4.2 Notification Of Completion: Contractor shall notify manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.

3.4.3 Final Inspection: Hold a meeting at the completion of the membrane application attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the Contractor and the manufacturer's representative. Complete, sign, and mail the punch list form to the manufacturer's headquarters.

3.4.4 Issuance Of The Guarantee. Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

END OF SECTION

075552

MODIFIED BITUMINOUS PROTECTED MEMBRANE ROOFING

PART 40 GENERAL

1. SUMMARY

a. Section includes styrene-butadiene-styrene (SBS)-modified bituminous protected membrane roofing.

2. DEFINITIONS

a. Roofing Terminology: See ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

3. PREINSTALLATION MEETINGS

a. Pre-installation Roofing Conference: Conduct conference at Project site.

1) Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck

Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

2) Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3) Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4) Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5) Review structural loading limitations of roof deck during and after roofing.
6) Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7) Review governing regulations and requirements for insurance and certificates if applicable.
8) Review temporary protection requirements for roofing during and after installation.
9) Review roof observation and repair procedures after roofing installation.

4. ACTION SUBMITTALS

a. Product Data: For each type of product.

b. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:

1) Base flashings and membrane terminations.
2) Tapered insulation, including slopes.
3) Crickets, saddles, and tapered edge strips, including slopes.

c. Samples for Verification: For the following products:

1) Cap sheet, of color required.
2) Flashing sheet, of color required.

D. Certificate Of Analysis from the testing laboratory of the primary roofing materials manufacturer, confirming the physical and mechanical properties of the roofing membrane components. Testing shall be in accordance with the parameters published in ASTM D 5147 and ASTM D 7051 and indicate Quality Assurance/Quality Control data as required to meet the specified properties. A separate Certificate of Analysis for each production run of material shall indicate the following information:

1 Material type
2. Lot number
3. Production date

4. Dimensions and Mass (indicate the lowest values recorded during the production run);

- Roll length
- Roll width
- Selvage width
- Total thickness
- Thickness at selvage (coating thickness)
- Weight

5. Physical and Mechanical Properties;

- Low temperature flexibility
- Peak load
- Ultimate Elongation
- Dimensional stability
- Compound Stability
- Granule embedment
- Resistance to thermal shock (foil faced products)

5. INFORMATIONAL SUBMITTALS

a. Qualification Data: For Installer. Installer shall have a minimum of 15 years of business service installing Siplast roof systems and have completed at least 5 roofs as defined herein of at least 50,000 sf or larger.

b. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

1) Submit evidence of compliance with performance requirements.

c. Product Test Reports: For components of roofing system, for tests performed by manufacturer and witnessed by a qualified testing agency.

d. Research/Evaluation Reports: For components of roofing system, from ICC-ES.

e. Sample Warranties: For manufacturer's special warranties.

6. CLOSEOUT SUBMITTALS

a. Maintenance Data: For roofing system to include in maintenance manuals.

7. QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that is FM Global approved for roofing system identical to that used for this Project.

B. Product Quality Assurance Program: Primary roofing materials shall be manufactured under a quality management system that is monitored regularly by a third party auditor under the ISO 9001 audit process. A certificate of analysis for reporting/confirming the tested values of the actual material being supplied for the project will be required prior to project close-out.

C. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer at the top quality level to install manufacturer's product and that is eligible to receive manufacturer's special warranty at the highest level of certification. A list of certified master roofers is as follows: ABR Construction (Lexington, Kentucky), American Roofing (Louisville , Kentucky) Bri-Den Roofing Co. (Ashland Kentucky), Geoghegan Roofing (Bowling Green, Kentucky), Geoghegan Roofing (Louisville, Kentucky), Highland Roofing (Louisville, Kentucky), Imbus Roofing (Wilder, Kentucky) Preferred Construction (Henderson , Kentucky), Swift Roofing (Elizabethtown/Murray Kentucky), and Tri-State Roofing (Lexington, Kentucky),William Kramer and Sons (Harrison, Ohio)

8. DELIVERY, STORAGE, AND HANDLING

a. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

b. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing manufacturer. Protect stored liquid material from direct sunlight.

1) Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

c. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

d. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

9. FIELD CONDITIONS

a. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

10. WARRANTY

a. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.

1) Special warranty includes membrane roofing, base flashings, roof insulation, fasteners, cover boards, substrate board, roofing accessories and other components of roofing system.
2) Warranty Period: 20, 25, or 30 years from date of Substantial Completion.

b. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:

1) Warranty Period: Two years from date of Substantial Completion.

PART 41 PRODUCTS

1. MANUFACTURERS

a. SBS-Modified Bituminous Roofing:

1) Manufacturers: Subject to compliance with requirements, provide products by one of the following:
2) Basis-of-Design Product: Subject to compliance with requirements, provide Paradiene 20HV base sheet and Paradiene 30 FR cap sheet and related components as manufactured by Siplast or product that meets or exceeds Siplast by one of the following:
   a) The Garland Company.
   b) Tremco

b. Source Limitations: Obtain components including roof insulation, fasteners and other related components for roofing system from same manufacturer as roofing or manufacturer approved by roofing manufacturer.

2. PERFORMANCE REQUIREMENTS

a. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.

1) Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
2) Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.

b. Material Compatibility: Roofing materials shall be compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

c. Roofing System Design: Tested by a qualified testing agency to resist the following uplift pressures:

1) Fire/Windstorm Classification: Class 1A-90.
2) Hail-Resistance Rating: MH.

d. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class C; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

3. ROOFING SHEET MATERIALS

a. Base Sheet: ASTM D 4601, Type II, asphalt-impregnated and -coated sheet, with glass-fiber-reinforcing mat, asphalt coated sheet dusted with fine mineral surfacing both sides . (Provide a polyolefin film backing for use with wood, lightweight concrete fill or gypsum deck).

1) Weight: 20 lb/100 sq. ft. (1.2 kg/sq. m), minimum.

B. Roofing Membrane Sheet: ASTM D 6163, Grade S, Type I or Type II, glass-fiber-reinforced, SBS-modified asphalt sheet; smooth surfaced; suitable for application method specified, meeting the following requirements:

1. Thickness (avg): 126 mils (3.2 mm) (ASTM D 5147)
2. Thickness (min): 132 mils (3.4 mm) (ASTM D 5147)
3. Weight (min per 100 ft^2 of coverage): 90 lb (4.4 kg/m^2)

4. Maximum filler content in elastomeric blend - 35% by weight
5. Low temperature flexibility @ -15ºF (-26ºC): PASS (ASTM D 5147)
6. Peak Load (avg) @ 73ºF (23ºC): 30 lbf/inch (5.3 kN/m) (ASTM D 5147)
7. Peak Load (avg) @ 0ºF (-18ºC): 75 lbf/inch (13.2 kN/m) (ASTM D 5147)
8. Ultimate Elongation (avg.) @ 73ºF (23ºC): 100% (ASTM D 5147)
9. Dimensional Stability (max): 0.1% (ASTM D 5147)
10. Compound Stability (min): 250º F (121ºC) (ASTM D 5147)
11. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
12. Reinforcement: fiberglass mat or other meeting the performance and dimensional stability criteria

b. Roofing Membrane Cap Sheet: ASTM D 6163, Grade G, Type I, Type II, or Type III, glass-fiber-reinforced, SBS-modified asphalt sheet; granule surfaced; suitable for application method specified, and as follows:

1) Thickness (avg): 130 mils (3.3 mm) (ASTM D 5147)
2) Thickness at selvage (coating thickness) (avg): 98 mils (2.5 mm) (ASTM D 5147)
3) Thickness at selvage (coating thickness) (min): 94 mils (2.4 mm) (ASTM D 5147)
4) Weight (min per 100 ft^2 of coverage): 91 lb (4.4 kg/m^2)
5) Maximum filler content in elastomeric blend: 35% by weight
6) Low temperature flexibility @ -15F (-26C): PASS (ASTM D 5147)
7) Peak Load (avg) @ 73F (23C): 80 lbf/inch (14.1 kN/m) (ASTM D 5147)
8) Peak Load (avg) @ 0F (-18C): 150 lbf/inch (26.5 kN/m) (ASTM D 5147)
9) Ultimate Elongation (avg.) @ 73F (23C): 55% (ASTM D 5147)
10) Dimensional Stability (max): 0.1% (ASTM D 5147)
11) Compound Stability (min): 250F (121 C) (ASTM D 5147)
12) Granule Embedment (max loss): 2.0 grams per sample (ASTM D 5147)
13) Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
14) Reinforcement: fiberglass scrim/fiberglass mat or other meeting the performance and dimensional stability criteria
15) Granule Color: White

c. Roofing Membrane Reflective Cap Sheet: ASTM D 6163, Grade G, Type I, Type II, or Type III glass-fiber-reinforced, SBS-modified asphalt sheet; granule surfaced; suitable for application method specified, and as follows:

1) Thickness (avg): 130 mils (3.3 mm) (ASTM D 5147)
2) Thickness at selvage (coating thickness) (avg): 98 mils (2.5 mm) (ASTM D 5147)
3) Thickness at selvage (coating thickness) (min): 94 mils (2.4 mm) (ASTM D 5147)

4) Weight (min per 100 ft² of coverage): 91 lb (4.4 kg/m²)
5) Maximum filler content in elastomeric blend: 35% by weight
6) Low temperature flexibility @ -15F (-26C): PASS (ASTM D 5147)
7) Peak Load (avg) @ 73F (23C): 80 lbf/inch (14.1 kN/m) (ASTM D 5147)
8) Peak Load (avg) @ 0F (-18C): 150 lbf/inch (26.5 kN/m) (ASTM D 5147)
9) Ultimate Elongation (avg.) @ 73F (23C): 55% (ASTM D 5147)
10) Dimensional Stability (max): 0.1% (ASTM D 5147)
11) Compound Stability (min): 250F (121 C) (ASTM D 5147)
12) Granule Embedment (max loss): 2.0 grams per sample (ASTM D 5147)
13) Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
14) Reinforcement: fiberglass scrim/fiberglass mat or other meeting the performance and dimensional stability criteria
15) Granule Color: Bright White Ceramic Granules

2.4 BASE FLASHING SHEET MATERIALS

A. Backer Sheet: ASTM D 6163, Grade S, Type I or II, glass-fiber-reinforced, SBS-modified asphalt sheet; smooth surfaced; suitable for application method specified.

d. Flashing Sheet: ASTM D 6298, glass-fiber-reinforced, SBS-modified asphalt sheet; metal-foil surfaced; suitable for application method specified, and as follows:
1) Thickness (avg): 150 mils (3.8 mm) (ASTM D 5147)
2) Thickness (min): 146 mils (3.7 mm) (ASTM D 5147)
3) Weight (min per 100 ft² of coverage): 96 lb (4.5 kg/m²)
4) Coating Thickness – back surface (min): 40 mils (1 mm) (ASTM D 5147)
5) Low temperature flexibility @ 0º F (-18º C): PASS (ASTM D 5147)
6) Peak Load (avg) @ 73ºF (23ºC): 85 lbf/inch (15 kN/m) (ASTM D 5147)
7) Peak Load (avg) @ 0ºF (-18ºC): 180 lbf/inch (31.7 kN/m) (ASTM D 5147)
8) Ultimate Elongation (avg) @ 73ºF (23ºC): 45% (ASTM D 5147)
9) Tear-Strength (avg): 120 lbf (0.54 kN) (ASTM D 5147)
10) Dimensional Stability (max): 0.2% (ASTM D 5147)
11) Compound Stability (min): 225ºF (107ºC) (ASTM D 5147) Cyclic Thermal Shock Stability (maximum): 0.2% (ASTM D 7051)
12) Approvals: UL Approved, FM Approved (products shall bear seals of approval)
13) Reinforcement: fiberglass scrim mat or other meeting the performance and dimensional stability criteria
14) Foil Surfacing: Aluminum.

e. Catalyzed Acrylic Resin Flashing System: A specialty flashing system consisting of a liquid-applied, fully reinforced, multi-component acrylic membrane installed over a prepared or primed substrate. The flashing system consists of a catalyzed acrylic resin primer, basecoat and topcoat, combined with a non-woven polyester fleece. The resin and catalyst are pre-mixed immediately prior to installation. The use of the specialty flashing system shall be specifically approved in advance by the membrane manufacturer for each application.

2.5 AUXILIARY ROOFING MATERIALS

A General: Auxiliary materials recommended by roofing manufacturer for intended use and compatible with roofing.

1) Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.

B Roofing Asphalt: ASTM D 312, Type III or IV as recommended by roofing manufacturer for application.

C Cold-Applied Adhesive: Roofing manufacturer's standard asphalt-based, one- or two-part, asbestos-free, cold-applied adhesive specially formulated for compatibility and use with roofing and base flashings.

f. Mastic Sealant: Polyisobutylene, plain or modified bitumen; non-hardening, non-migrating, non-skinning, and nondrying.

g. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing components to substrate; tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.

h. Insulation Cant Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.

i. Miscellaneous Accessories: Provide accessories recommended by roofing system manufacturer.

2.6 ROOF INSULATION

A General: Preformed polyisocyanurate roof insulation boards manufactured or approved by roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.

2.7 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with roofing.

PART 42 EXECUTION

1. EXAMINATION

a. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:

1) Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
2) Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations.

b. Proceed with installation only after unsatisfactory conditions have been corrected.

2. PREPARATION

a. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

b. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3. INSULATION INSTALLATION

a. Install one lapped base-sheet course and mechanically fasten to substrate according to roofing system manufacturer's written instructions.

b. Nailer Strips: Mechanically fasten 4-inch nominal- (89-mm actual-) width wood nailer strips of same thickness as insulation perpendicular to sloped roof deck at the following spacing:

1) [16 feet (4.88 m)] apart for roof slopes greater than 1 inch per 12 inches (1:12) but less than 3 inches per 12 inches (3:12).

c. Insulation Cant Strips: Install and secure preformed 45-degree insulation cant strips at junctures of roofing system with vertical surfaces or angle changes greater than 45 degrees.
    1) Insulation cant strips may be mechanically fastened or set in hot asphalt, depending on substrate and roofing system manufacturer's written instructions.

d. Install tapered insulation under area of roofing to conform to slopes indicated.

e. Install insulation with long joints of insulation in a continuous straight line, with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.

    1) Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.

f. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches (68 mm) or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.

g. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

h. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

i. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:

    1) Prime surface of concrete deck with asphalt primer at rate of 3/4 gal./100 sq. ft. (0.3 L/sq. m), and allow primer to dry.
    2) Set each layer of insulation in a solid mopping of hot roofing asphalt.
    3) Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.

j. Mechanically Fastened and Adhered Insulation: Install first layer of insulation to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.

    1) Fasten first layer of insulation according to requirements in FM Global's "RoofNav" for specified Windstorm Resistance Classification.
    2) Fasten first layer of insulation to resist uplift pressure at corners, perimeter, and field of roof.
    3) Set each subsequent layer of insulation in a solid mopping of hot roofing asphalt.

4) Set each subsequent layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.

k. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together. Tape joints if required by roofing system manufacturer.

1) Apply hot roofing asphalt to underside, and immediately bond cover board to substrate.

4. ROOFING INSTALLATION, GENERAL

a. Install roofing system according to roofing system manufacturer's written instructions and applicable recommendations in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing" by certified master installer of specified systems.

b. Start installation of roofing in presence of manufacturer's technical personnel.

c. Where roof slope exceeds 1/2 inch per 12 inches (1:24), install roofing sheets parallel with slope.

d. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

1) Provide tie-offs at end of each day's work to cover exposed roofing sheets with a course of coated felt set in roofing cement or hot roofing asphalt, with joints and edges sealed.
2) Complete terminations and base flashings, and provide temporary seals to prevent water from entering completed sections of roofing system.
3) Remove and discard temporary seals before beginning work on adjoining roofing.

e. Asphalt Heating: Heat asphalt to its equiviscous temperature, measured at the mop cart or mechanical spreader immediately before application. Circulate asphalt during heating. Do not raise roofing asphalt temperature above equiviscous temperature range more than one hour before time of application. Do not exceed roofing asphalt manufacturer's recommended temperature limits during roofing asphalt heating. Do not heat roofing asphalt within 25 deg F (14 deg C) of flash point. Discard roofing asphalt maintained at a temperature exceeding finished blowing temperature for more than four hours.

1) Apply hot roofing asphalt within plus or minus 25 deg F (14 deg C) of equiviscous temperature.

f. Asphalt Heating: Heat and apply SEBS-modified roofing asphalt according to roofing system manufacturer's written instructions.

g. Substrate-Joint Penetrations: Prevent roofing asphalt from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.

5. BASE-SHEET INSTALLATION (If Required)

a. Install lapped base-sheet course, extending sheet over and terminating beyond cants. Attach base sheet as follows:

1) Mechanically fasten to substrate with manufacturer’s recommended fasteners.

b. For use with Wood, Gypsum, Tectum, or Lightweight Insulating Concrete Substrate, secure base sheet to substrate as follows: Lay the base sheet over the entire area to be roofed, lapping sides 3 inches and ends 6 inches. Using the specified fasteners, fasten each sheet every 7 1/2 inches through laps and stagger fasten the remainder of the sheet in 2 rows on nominal 12 inch centers with fasteners in each row on 10 inch centers. Increase the fastening pattern by 70% at the perimeter of the roof and 160% in the corners.

6. MODIFIED BITUMINOUS MEMBRANE INSTALLATION

a. Install modified bituminous roofing sheet and cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system. Extend roofing sheets over and terminate beyond cants as follows:

1) Adhere base to substrate in hot asphalt.
1) Adhere cap sheet to base sheet in cold-applied adhesive.
2) Unroll roofing membrane sheets and allow them to relax for minimum time period required by manufacturer.

b. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids.

1. Repair tears and voids in laps and lapped seams not completely sealed

c. Install roofing sheets so side and end laps shed water.

7. FLASHING AND STRIPPING INSTALLATION

a. Install base flashing over cant strips and other sloping and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions and as follows:

1. Flashing-Sheet Application: Adhere flashing sheet to substrate in cold-applied adhesive at rate required by roofing system manufacturer.

2. Prime substrate with asphalt primer if required by roofing system manufacturer. Install backer sheet and adhere to substrate in hot asphalt ot cold-applied adhesive at rate required by roofing system manufacturer.

b. Extend base flashing up walls or parapets a minimum of 8 inches (200 mm) above roofing and 4 inches (100 mm) onto field of roofing. Prime substrates with asphalt primer if required by system manufacturer.

c. Terminations at vertical surfaces including parapets, curbs, pipe curb assemblies and rooftop equipment.

1) Prime masonry surfaces.
2) Extend base ply to top of cant strip, fully adhered to substrate but dry on cant.
3) Strip in reinforcing layer of base ply from top of curbs, outside face of parapet or just below metal counter-flashing to minimum 3 inches onto roof surface. Secure to wood with nails maximum9 inches on center. Fully adhere to base ply. Laps in second layer shall be offset from laps in first layer.
4) Extend cap sheet to top of cants, fully adhere.
5) Fully adhere base flashing plies to completely cover top of reinforcing layer and to extend minimum 1 inch past toe of reinforcing layer. Nail top of base flashing sheet 9 inches on center to substrate.

d. Terminations at Roof Edges:

1) Extend base ply to top of pre-manufactured cant strip, fully adhered to substrate but dry on cant.
2) Strip in reinforcing layer of base ply from heel of fascia cleat, up and across cant strip and extending minimum 3 inches onto roof surface. Laps in reinforcing layer shall be offset from laps in base layer.
3) Extend cap sheet to top of cants, fully adhered.
4) Fully adhere base flashing sheet to completely cover reinforcing layer and to extend minimum 1 inch past toe of reinforcing layer.

e. Termination at Prefabricated Flashing Boots:

1) Extend base ply to penetrating element.

2) Install prefabricated flashing boot per Roof Accessories: Division 7.
3) Install a reinforcing layer of base ply, tight to boot and minimum 6 inches larger in each direction than boot flange.
4) Extend cap sheet to boot and seal perimeter.

f. Miscellaneous Roof Penetrations: Treat as described above for vertical termination or PMMA flashing membrane, prefabricated flashing boot or formed lead flashing. No pitch pockets allowed.

g. Scuppers:
1) Extend base ply through rough scupper opening to outside face, fully adhere except at cants.
2) Embed primed scupper box in mastic.
3) Fully adhere a reinforcing layer of base ply lapping a minimum 3 inches onto base sheet and scupper.
4) Fully adhere cap sheet over reinforcing layer.
5) Fully adhere base flashing over cap sheet extending 1 inch past reinforcing ply on all sides. Seal base flashing to scupper box.
6) Carefully turn each sheet up sides of scupper box as work progresses, lapping previous layers.

h. Roof Drains: Set 30-by-30-inch (760-by-760-mm) metal flashing in bed of asphaltic adhesive on roofing. Cover metal flashing with roofing cap-sheet stripping, and extend a minimum of 4 inches (100 mm) beyond edge of metal flashing onto field of roofing. Clamp roofing, metal flashing, and stripping into roof-drain clamping ring.

1) Install stripping according to roofing system manufacturer's written instructions.

8. WALKWAY INSTALLATION

a. Walkway Pads: Install walkway pads using units of size indicated or, if not indicated, of manufacturer's standard size, according to walkway pad manufacturer's written instructions.

1) Set walkway pads in cold-applied adhesive.

9. FIELD QUALITY CONTROL

a. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.

1) Notify Owner 48 hours in advance of date and time of inspection.

b. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.

10. PROTECTING AND CLEANING

a. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

b. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

c. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

075600

PMMA FLUID APPLIED ROOFING

4 General

4.1 Related documents

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

4.2 Summary

A. Section Includes: Concrete substrate preparation and waterproofing system consisting of a cold, fluid-applied, PMMA waterproofing membrane and associated flashings.

B. Roofing system consisting of a two-ply, SBS modified bitumen membrane system including vapor retarder, lightweight insulating concrete, base sheet, tapered insulation, flat insulation, insulation cover panel, base flashing and accessories.

4.3 Related Work Specified Elsewhere

A. Division 1: Applicable Sections

B. Division 1: Inspection and Testing Services

C. Section 035216-16: Lightweight Insulating Concrete:

D. Division 7: Flashing and Sheet Metal

E. Division 7: Manufactured Fascias and Copings

F. Division 7: Roof Accessories

4.4 Reference Standards

A. Factory Mutual (FM Global)

B. American Society for Testing and Materials (ASTM)

C. National Waterproofing Contractors Association (NRCA)

D. American Society of Civil Engineers (ASCE)

E. Certified Roof Torch Applicator (CERTA)

F. Occupational Health and Safety Administration (OSHA)

G. Sheet Metal & Air Conditioning Contractors National Association (SMACNA)

H. Underwriters Laboratory (UL)

4.5 Definitions

A. Waterproofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of waterproofing terms related to this section.

4.6 Description of Work

A. System Description:

1. Siplast: (Basis of Design)

Parapro Roof Membrane

4.7 Action submittals

A. Product and material safety data sheets for each product proposed for use.

B. Product and material safety data sheets for each product proposed for use.

C. Samples for Verification

1. Two 8 ½ inch x 11 inch samples of the primary roofing and flashing materials, of color required.

D. Shop Drawings

1. Base flashings and membrane terminations

2. Tapered insulation, including slopes

3. Crickets, saddles, and tapered edge strips, including slopes

4. Insulation fastening patterns for corner, perimeter, and field

4.8 Informational submittals

A. Latest edition of the roofing system manufacturer's specifications and installation instructions.

B. Evidence of Factory Mutual testing.

C. Evidence of Underwriters' Laboratories Class A acceptance of the proposed roofing system.

D. Evidence and description of manufacturers' quality control/quality assurance program for the primary roofing products supplied. The quality assurance program description shall include all methods of testing for physical and mechanical property values.

E. Evidence the roof system has passed 500 cycles of ASTM D 5849 Resistance to Cyclic Joint Displacement (fatigue) at 14°F (-10°C). Passing results shall show no signs of membrane cracking or interply delamination after 500 cycles.

F. Evidence the roof system has passed 200 cycles of ASTM D 5849 after heat conditioning performed in accordance with ASTM D 5147.

G. Letter from the roofing manufacturer confirming that the membrane manufacturer has been producing SBS products in the United States for a minimum of 10 years without a change in the basic product design or SBS modified blend, e.g. no substantive changes to the product composition, polymer specification, asphalt and filler formulation.

H. Letter from the proposed primary roofing manufacturer confirming the number of years it has directly manufactured the proposed primary roofing system under the trade name and/or trademarks as proposed.

I. Letter from the proposed primary roofing manufacturer confirming that a phased roof application, with only the modified bitumen base ply in place for a period of up to 10 weeks is acceptable and approved for this project.

J. Letter from the proposed primary roofing manufacturer confirming that the filler content in the elastomeric blend of the proposed roof membrane and flashing components does not exceed 35% in weight.

K. Letter from the proposed primary roofing manufacturer confirming that the proposed roof membrane and flashing components meet or exceed the physical and mechanical requirements listed in Part 2 of this specification.

L. Letter from the proposed primary roofing manufacturer that the proposed roof membrane and flashing components have a Solar Reflective Index (SRI) of ≥0.72 and a Thermal Emmittance of ≥0.81.

M. Complete list of material physical and mechanical properties for each sheet including: weights and thicknesses; low temperature flexibility; maximum load; elongation @ 5% maximum load; breaking load; dimensional stability; high temperature stability; and compound stability.

N. Sample copy of the specified guarantee.

O. Sample copy of the specified guarantee.

4.9 Submittal of Equals

A. Submit roofing systems to be considered as equals to the basis of design as outlined herein no less than 10 days prior to bid date. Primary roofing systems that have been reviewed and accepted as equals to the specified roofing system will be listed in an addendum prior to bid date; only then will equals be accepted at bidding. All submittal packages for equals to be considered shall comply with the submittal requirements outlined herein.

4.10 Close-Out submittals

A. Certificate Of Analysis from the testing laboratory of the primary waterproofing materials manufacturer confirming the physical and mechanical properties of the roofing membrane components. Testing shall be in accordance with the parameters published in ASTM D 5147 and ASTM D 7051 and indicate Quality Assurance/Quality Control Data as required to meet the

specified properties. A separate Certificate Of Analysis for each production run of material shall indicate the following information:

1. Material type
2. Lot number
3. Production date
4. Dimensions and Mass (indicate the lowest values recorded during the production run)
5. Roll length
6. Roll width
7. Selvage width
8. Total thickness
9. Thickness at Selvedge (coating thickness)
10. Weight
11. Physical and Mechanical Properties
12. Low temperature flexibility
13. Peak Load
14. Ultimate Elongation
15. Dimensional stability
16. Compound Stability
17. Granule Embedment

B. Repair and Maintenance guide outlining roofing care and maintenance required in order to maintain the guarantee.

C. Guarantee, as specified herein.

4.11 Quality Assurance

A. Acceptable Products: Provide primary roofing products, including each type of sheet, all manufactured in the United States, supplied by a single manufacturer which has been successfully producing the specified types of primary products for not less than 10 years. Provide secondary or accessory products which are acceptable to the manufacturer of the primary roofing products.

B. Agency Approvals: The proposed roofing system shall conform to the following requirements. No other testing agency approvals will be accepted.

1. Underwriters Laboratories Class A acceptance of the proposed roofing system.

2. Factory Mutual Approval Standard 4470 listing for the proposed membrane system. The roofing membrane configuration shall be approved by FM Global for Class 1-SH (severe hail) exposure. The roof shall be approved by FM Global for minimum 1- 90 wind uplift construction.

3. The roof membrane system shall be eligible to achieve 1 credit point according to SS Credit 7.2 Heat Island Effect-Roof as recorded in LEED 2009 for New Construction and Major Renovations.

4. The roof membrane system shall meet the approval requirements of the U.S. EPA Energy Star program.

C. Project Acceptance: Submit a completed manufacturer's application for guarantee form along with shop drawings of the areas to be roofed showing all dimensions, penetrations, and details. The form shall contain all the technical information applicable to the project including deck types, slopes, and manufacturer's membrane assembly proposed for installation. The form shall also contain accurate and complete information requested including proper names, addresses, zip codes and telephone numbers. The project must receive approval, through this process, prior to shipment of materials to the project site.

D. Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the roof installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary roofing products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the Handbook of Accepted Roofing Knowledge (HARK) as published by the National Roofing Contractor's Association, amended to include the acceptance of a phased roof system installation.

E. Local Regulations: Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.

F. Manufacturer Requirements: The primary roofing materials manufacturer shall provide direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conduct a final inspection upon successful completion of the project.

G. Single Source Requirements: Products and materials required to complete system shall be either produced directly by manufacturer or approved in writing by primary manufacturer for intended purpose.

H. Regulatory Requirements: Comply with applicable Volatile Organic Compounds (VOCs) regulations

I. Preliminary Conference: As soon as possible after award of roofing work and before initial submittals, meet with installer, design professional, owner's representative, inspecting agent, and representatives of other entities directly concerned with performance of roofing system.

1. Review requirements, submittals, status of coordinating work, availability of materials, substrate requirements, installation facilities and establish preliminary installation schedule.

2. Review requirements for inspections, testing, certifications, forecasted weather conditions, governing regulations, insurance requirements, and proposed installation procedures.

3. Discuss roofing system protection requirements for construction period extending beyond roofing installation. Discuss possible need for temporary waterproofing.

4. Confirm that all parties involved are aware of warranty requirements and that a letter of intent to warrant has been submitted and approved.

5. Record discussion, including agreement or disagreement on matters of significance; furnish copy of recorded discussions to each participant. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.

J. Pre-Application Conference: Approximately two (2) weeks before scheduled commencement of roofing installation and associated work, meet at project site with installer, installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of other work in and around roofing that must precede or follow roofing work (including mechanical work if any), design professional, owner's representative, inspection agent,

roofing system manufacturer's representative, and other representatives directly concerned with performance of work.

1. Review foreseeable methods and procedures related to roofing work including, but not limited to, the following:

    a. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, drains, curbs, penetrations, and other preparatory work performed by other sections.
    b. Review structural loading limitations of deck.
    c. Review roofing system requirements (Drawings, Specifications, and other Contract Documents).
    d. Review required submittals, both completed and yet to be completed.
    e. Review and finalize construction schedule related to roofing work and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
    f. Review required inspection, testing, certifying and material usage accounting procedures.
    g. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not a mandatory requirement).

2. The roofing installer shall record discussions of conference, including decisions and agreements (or disagreements) reached, and furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.

K. Inspection and Testing: Independent Inspection and Testing services will be required in relation to Work of this Section. Refer to Division 1.

L. Coordination: Contractor shall coordinate work specified in other sections and in other contracts affecting roof in anyway.

4.12 Delivery, Handling And Storage

A. Deliver materials in original unopened containers or packaging clearly labeled with manufacturer's name, brand name, instructions for storage, handling and use, all identifying numbers and labels.

B. Store materials on pallets or other similar raised platform and protected from weather.

C. Do not overload structure by storing large amounts of material in one (1) area.

D. Store materials out of direct exposure to the elements. Store roll goods on a clean, flat and dry surface. All material stored overnight shall be stored on pallets. Rolls of waterproofing must be stored on ends. Store materials in a manner as to preclude overloading of deck and building structure. Store materials such as solvents, adhesives and asphalt cutback products away from open flames, sparks or excessive heat. Cover all material using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings are not acceptable.

E. Store all pail goods in their original undamaged containers in a clean, dry location, between 60 degrees F and 80 degrees F.

F. Do not expose materials to moisture in any form before, during, or after delivery to the site. Reject delivery of materials that show evidence of contact with moisture.

G. Remove manufacturer supplied plastic covers from materials provided with such. Use "breathable" type covers such as canvas tarpaulins to allow venting and protection from weather and moisture. Cover and protect materials at the end of each work day. Do not remove any protective tarpaulins until immediately before the material will be installed.

H. Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, removed and replaced at the contractor's expense.

I. Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.

4.13 Project Conditions

A. Application of roofing shall not commence or proceed during inclement weather or if precipitation is more than 50 percent likely during next eight (8) hour period per National Weather Service.

B. Application of roofing shall not commence or proceed if ambient temperature is below 0 degrees For temperature is below 10 degrees Fand is predicted to fall during next eight (8) hour period per National Weather Service.

C. Comply with manufacturer's Cold Weather Application Guidelines at all times.

D. Temperature Restrictions - asphalt: At ambient temperatures of 40°F (4°C) and below, special precautions must be taken to ensure that the specified Type IV asphalt maintains a minimum acceptable 400°F (204°C) at the point of sheet application. The asphalt must not be overheated to compensate for cold conditions. The use of insulated handling equipment is strongly recommended. Hot luggers, mop carts, and kettle-to-roof supply lines should be insulated. Hand

mops should be constructed with a smaller yarn head to facilitate short moppings. Luggers and mop carts should never be more than half filled at all times.

E. Temperature Restrictions - cold adhesive: At low temperatures, the specified cold adhesive becomes more viscous, making even distribution more difficult. The optimal temperature of the adhesive at point of application is 70°F (21°C). To facilitate application when ambient temperatures are below 50°F (10°C), store the adhesive and roll goods in a warm place immediately prior to use. Roll or broom the sheets to ensure contact with the underlying adhesive. Suspend application in situations where the adhesive cannot be kept at temperatures allowing for even distribution.

F. Temperature Restrictions – self-adhesive sheets: The minimum required substrate temperature at point of application is 60°F (15°C). Maintain a minimum roof membrane material temperature above 60°F (15°C). In low temperature conditions, materials should be kept warm prior to application. Suspend application in situations where the self-adhered base ply cannot be kept at temperatures allowing for proper adhesion.

G. Temperature Restrictions – PMMA-based Materials: Do not apply catalyzed resin materials if there is a threat of inclement weather. Follow the resin manufacturer's specifications for minimum and maximum ambient, material and substrate temperatures. Do not apply catalyzed resin materials unless ambient and substrate temperatures fall within the resin manufacturer's published range.

H. Precipitation: Do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure materials, applied roofing, and building interiors are protected from possible moisture damage or contamination.

I. Safety: Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NIOSH, NRCA and other industry or local governmental groups. Workers shall wear a long sleeve shirt with long pants and work boots. Workers shall use only butyl rubber or nitrile gloves when mixing or applying PMMA products. Safety glasses with side shields are required for eye protection. Use local exhaust ventilation to maintain worker exposure below the published Threshold Limit Value (TLV). If the airborne concentration poses a health hazard, becomes irritating or exceeds recommended limits, use a NIOSH approved respirator in accordance with OSHA Respirator Protection requirements published under 29 CFR 1910.134. The specific type of respirator will depend on the airborne concentration. A filtering face piece or dust mask is not appropriate for use with this product if TLV filtering levels have been exceeded.

4.14 Sequencing

A. Coordinate work to minimize construction traffic required over completed waterproofing system.

B. Restrictions – self-adhesive sheets: The minimum required substrate temperature at point of application is 60°F (15°C). Maintain a minimum roof membrane material temperature above 60°F (15°C). In low temperature conditions, materials should be kept warm prior to application. Suspend application in situations where the self-adhered base ply cannot be kept at temperatures allowing for proper adhesion.

4.15 Warranty

A. Assembly Letter: Submit an assembly letter executed by an authorized representative of the roof membrane system manufacturer, indicating that the manufacturer has reviewed drawings and specifications, conditions affecting work and relationship of roof membrane system with related work, and that manufacturer proposes to provide warranty as referenced herein without further stipulation.

B. Manufacturer's Warranty:

1. Roof Guarantee: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the owner with the manufacturer's twenty (20), year Parapro Roof Membrane / System labor and materials guarantee. The guarantee shall be a term type, without deductibles or limitations on coverage amount, and shall be issued at no additional cost to the owner.

2. Roof Guarantee Addendum: In addition to the specified roof guarantee, furnish the owner with the roofing manufacturer's inclusion addendum offering coverage of the factory fabricated raised edge, gravel stop, coping, expansion joint, perforated gravel stop, drain, systems under the standard terms of the roof guarantee.

C. Owner's Instructions

1. Care and Maintenance: Provide manufacturer's written Roof and Maintenance Guide for maintenance of roof system including, inspection schedules, trouble shooting, early signs of a potential problem and temporary emergency repairs.

5 Products

5.1 Manufacturer

A. Subject to compliance with specified criteria, provide primary membrane system components manufactured by one (1) of the following:

1. Siplast, Basis of Design

2. Tremco

3. Garland

5.2 Performance Requirements

A. A roof membrane assembly consisting of one ply of a prefabricated, reinforced, homogeneous Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane applied over a prepared substrate, covered with a liquid applied, flexible, PMMA-based monolithic membrane formed by the combination of resin and fleece fabric. The reinforcement mats in the SBS ply shall be impregnated/saturated and coated each side with an SBS modified bitumen blend. The cross sectional area of the SBS sheet material shall contain no oxidized or non-SBS modified bitumen. The adhesive layer of torch-grade membranes shall be manufactured using a process that embosses the surface with a grooved pattern to provide optimum burn-off of the plastic film and to maximize application rates. The top surface of the modified bitumen ply sheet shall be coated with a white acrylic coating to enhance resin bond and to minimize surface temperatures. The composite roof system, including SBS modified bitumen ply sheet and reinforced PMMA, shall pass 500 cycles of ASTM D 5849 Resistance to Cyclic Joint Displacement (fatigue) at 14F (-10C). Passing results shall show no signs of membrane cracking or interply delamination after 500 cycles. The roof system shall pass 200 cycles of ASTM D 5849 after heat conditioning performed in accordance with ASTM D 5147.

B. Roofing manufacturer shall select all products and installation techniques to conform with all requirements herein. Thicknesses and material descriptions included herein are minimums. Provide thicker materials or materials with higher performance values if required by roofing manufacturer to comply with indicated performance requirements. When a manufacturer offers multiple product grades (eg. basic, optimal, heavy duty) only the top tier of products will be considered for acceptance.

C. The owner and/or the architect reserve the right to have all submissions tested by an independent laboratory to confirm/dispute manufacturer’s claim.

5.3 Materials

A. Use primers, adhesives, paints, coatings and sealants that comply with all applicable, and relevant and appropriate VOC limits.

B. Base Sheet Fasteners

1. Lightweight Insulating Concrete: A one-piece, split wedge fastener made of specially coated galvanized steel with a corrosion resistant Galvalume stress distribution plate designed to secure base sheets to lightweight insulating concrete substrates.

   a. NVS Fastener by Siplast
   b. Zono-Tite Fastener by Siplast

2. Gypsum: A factory preassembled unit consisting of a tube, integral disk, and locking staple. The tube is fabricated from G-90 Galvanized coated steel, the 2.7-inch disk is ribbed and is fabricated from Galvalume-coated steel and the locking staple is fabricated from coated high-tensile steel wire. Engineered to secure base sheets to appropriate decks / substrates such as poured gypsum, cementitious wood fiber and other approved substrates.

   a. Paralok Fastener by Siplast

C. Base Sheet:

1. Base Sheet: A fiberglass reinforced, asphalt coated sheet with a polyolefin film backing, having a minimum weight of 20 lb/sq. The sheet shall conform to ASTM D 4601, Type II requirements.

   a. Siplast Parabase FS

D. Substrate Panel: Silicone impregnated gypsum board core panels with integral glass fiber facers, ½ thick, FM Global approved, complying with ASTM C 1177.

1. DensDeck Prime by Georgia-Pacific Corp.

2. Securock by U.S. Gypsum Company

E. Insulation Adhesive:

1. Mopping Asphalt: Type IV asphalt certified for full compliance with the requirements listed in Table I, ASTM D 312. Each container or bulk shipping ticket shall indicate the equiviscous temperature, EVT, the finished blowing temperature, FBT, and the flash point, FP. Mopping asphalt shall be approved in writing by the roof membrane manufacturer.

   a. Type IV Trumbull Asphalt by Owens Corning, Kearny, NJ

2. A single component, moisture-cure, solvent-free, polyurethane rigid insulation adhesive dispensed from a portable, disposable pre-pressurized metal container using a flexible dispensing hose with a PVC dispensing wand.

    a. Para-Stik Insulation Adhesive by Siplast

3. A fast-acting, two component, low-rise, polyurethane, rigid insulation adhesive that is applied using specially a designed dispenser at temperatures above 40 degrees fahrenheit.

    a. Parafast Insulation Adhesive

4. A fast-acting, dual component, low-rise, polyurethane, rigid insulation adhesive dispensed through a portable applicator at temperatures as low as zero degrees Fahrenheit.

    a. Parafast Insulation Adhesive "C"

F. Insulation Fasteners: Type recommended in writing by membrane manufacturer to meet uplift criteria.

1. Corrosion Resistance: Pass FM Global 4470 corrosion test, modified DIN 50018 standard, with a maximum of 15 percent red rust after 15 wet and dry acidic atmosphere cycles in Kesternich cabinet.

    a. Parafast Fasteners by Siplast

G. Rigid Roof Insulation: Roof insulation shall be UL and FM approved. Insulation shall be approved in writing by the insulation manufacturer for intended use and for use with the specified roof assembly. Maintain a maximum panel size of 4 feet by 4 feet where [polyisocyanurate / fiberboard] insulation is specified to be installed in hot asphalt or insulation adhesive.

1. Polyisocyanurate: A closed cell, rigid polyisocyanurate foam core material, integrally laminated between glass fiber facers, in full compliance with ASTM C 1289, Type II, Class 1, Grade 2. Acceptable types are as follows:

    a. Paratherm by Siplast
    b. ACFoam II by Atlas Roofing Corporation
    c. H-Shield by Hunter Panels, LLC.

2. Polyisocyanurate Tapered Roof Insulation: Tapered panels and standard fill panels composed of a closed cell, rigid polyisocyanurate foam core material, integrally laminated between glass fiber facers, in full compliance with ASTM C 1289, Type II, Class 1, Grade 2. The tapered system shall provide for a roof slope of ½" inch per foot. Acceptable types are as follows.

    a. Tapered Paratherm by Siplast
    b. ACFoam II Tapered Insulation Systems by Atlas Roofing Corporation
    c. Tapered H-Shield by Hunter Panels, LLC.

3. Fiberboard: A high density panel composed of interlocking wood fibers and waterproofing binders, having a top surface that is pre-treated with an asphalt based coating. Fiberboard panels shall be in full compliance with ASTM C 208, Type II, Grade 2, and ASTM C 209 (water absorption - 10% volume maximum) requirements. Panels shall have a nominal thickness of ½". Acceptable types are as follows:

   a. G-P Roof Fiberboard by Georgia Pacific Corp.
   b. FiberBase HD by Temple-Inland.

H. Perlite Tapered Edge Panels: A tapered panel composed of expanded volcanic minerals combined with waterproofing binders. The top surface shall be pre-treated with an asphalt based coating. The panels shall have a dimension sufficient to provide for a smooth transition and provide proper support for the membrane layer or subsequent layer of insulation when there are transitions of ¼ inch or greater

I. Modified Bituminous Sheets:

1. Self-Adhesive Modified Bitumen Cant Backing Ply

   a. Thickness (avg): 102 mils (2.6 mm) (ASTM D 5147)
   b. Thickness (min): 98 mils (2.5 mm) (ASTM D 5147)
   c. Weight (min per 100 ft² of coverage): 72 lb (3.5 kg/m²)
   d. Maximum filler content in elastomeric blend: 35% by weight
   e. Low temperature flexibility @ -15º F (-26º C) PASS (ASTM D 5147)
   f. Peak Load (avg) @ 73ºF (23ºC): 30 lbf/inch (5.3 kN/m) (ASTM D 5147)
   g. Peak Load (avg) @ 0ºF (-18ºC): 75 lbf/inch (13.2 kN/m) (ASTM D 5147)
   h. Ultimate Elongation @ 73ºF (23ºC): 50% (ASTM D 5147)
   i. Dimensional Stability (max): 0.1% (ASTM D 5147)
   j. Compound Stability (min - sheet): 250ºF (121ºC) (ASTM D 5147)
   k. Compound Stability (min – adhesive coating): 212ºF (100ºC) (ASTM D 5147)
   l. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
   m. Reinforcement: Fiberglass mat or other meeting the performance and dimensional stability criteria
   n. Back Surfacing: polyolefin film
   o. Top Surfacing: factory applied acrylic coating

      1) Siplast Paradiene 20 SA P

2. Modified Bitumen Base and Stripping Ply

   a. Thickness (avg): 91 mils (2.3 mm) (ASTM D 5147)

b. Thickness (min): 87 mils (2.2 mm) (ASTM D 5147)
c. Weight (min per 100 ft² of coverage): 62 lb (3.0 kg/m²)
d. Maximum filler content in elastomeric blend - 35% by weight
e. Low temperature flexibility @ -15ºF (-26ºC): PASS (ASTM D 5147)
f. Peak Load (avg) @ 73ºF (23ºC): 30 lbf/inch (5.3 kN/m) (ASTM D 5147)
g. Peak Load (avg) @ 0ºF (-18ºC): 70 lbf/inch (12.3 kN/m) (ASTM D 5147)
h. Ultimate Elongation @ @ 73ºF (23ºC): 50% (ASTM D 5147)
i. Dimensional Stability (max): 0.1% (ASTM D 5147)
j. Compound Stability (min): 250ºF (121ºC) (ASTM D 5147)
k. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
l. Reinforcement: Fiberglass mat or other meeting the performance and dimensional stability criteria
m. Top Surfacing: factory applied acrylic coating

1) Siplast Paradiene 20 P

3. Modified Bitumen Base and Stripping Ply

a. Thickness (avg): 118 mils (3.0 mm) (ASTM D 5147)
b. Thickness (min): 114 mils (2.9 mm) (ASTM D 5147)
c. Weight (min per 100 ft² of coverage): 84 lb (4.1 kg/m²)
d. Maximum filler content in elastomeric blend: 35% by weight
e. Low temperature flexibility @ -13º F (-25º C) - PASS (ASTM D 5147)
f. Peak Load (avg) @ 73ºF (23ºC): 80 lbf/inch (14.1 kN/m) (ASTM D 5147)
g. Peak Load (avg) @ 0ºF (-18ºC): 150 lbf/inch (26.5 kN/m) (ASTM D 5147)
h. Ultimate Elongation (avg.) @ 73ºF (23ºC): 100% (ASTM D 5147)
i. Dimensional Stability (max): 0.1% (ASTM D 5147)
j. Compound Stability (min): 250ºF (121ºC) (ASTM D 5147)
k. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
l. Reinforcement: Fiberglass mat or other meeting the performance and dimensional stability criteria
m. Top Surfacing: factory applied acrylic coating

1) Paradiene 20 EG P, by Siplast

J. Resin for Field Membrane Construction

1. A flexible, PMMA-based resin for use in combination with fleece fabric to form a monolithic, reinforced roofing membrane. The values listed below are based upon a 90 mil (2.3 mm) resin thickness.

a. Thickness (avg): 90 mils (2.3 mm) at 0.31 kg/ft² (3.3 kg/m²) coverage rate (ASTM D 5147, section 5).
b. Weight (min per 100 ft² of coverage): 68.4 lb (3.3 kg/m²)
c. Peak Load (avg) @ 73°F (23ºC): 70 lbf/in (12.3 kN/m) (ASTM D 5147 section 6)
d. Peak Load (avg) @ 73°F (23ºC): 90 lbf/inch (15.8 kN/m) (ASTM D 412, dumbbell)
e. Elongation at Peak Load (avg) @ 73°F: 35% (ASTM D 5147, section 6)
f. Elongation at Peak Load (avg) @ 73°F: 35% (ASTM D 412, dumbbell)
g. Shore A Hardness (avg): 81 (ASTM D 2240)
h. Water Absorption, Method I (24h @ 73°F): 0.8% (ASTM D 570)
i. Water Absorption, Method II (48h @ 122°F): 1.2% (ASTM D 570)
j. Low temperature flexibility @ 23 F (-5°C): PASS (ASTM D 5147, section 11)
k. Dimensional Stability (max): 0.15% (ASTM D 5147, section 10)
l. Tear Strength (avg): 90 lbf (0.4 kN) (ASTM D 5147, section 7)
m. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)

1) Parapro Roof Resin by Siplast

K. Resin for Flashing Membrane Construction

1. A flexible, PMMA-based resin combined with a thixotropic agent for use in combination with non-woven, 110 g/m², needle-punched polyester fabric reinforcement to form a monolithic, reinforced flashing membrane.

a. Parapro Flashing Resin by Siplast

L. Fleece for Field and Flashing Membrane Reinforcement

1. A non-woven, 110 g/m², needle-punched polyester fabric reinforcement as supplied by the membrane system manufacturer.

a. Pro Fleece by Siplast

M. Resin Accessories

1. Cleaning Solution/Solvent: A clear solvent used to clean and prepare transition areas of in-place catalyzed resin to receive subsequent coats of resin and to clean substrate materials to receive resin.

a. Pro Prep by Siplast

2. Preparation Paste: A PMMA-based paste used for remediation of depressions in substrate surfaces or other irregularities.

a. Pro Paste Resin by Siplast

3. Repair Mortar: A two-component, PMMA-based, aggregate filled mortar used for patching concrete substrates.

    a. Pro Repair Mortar by Siplast

4. Repair Mortar: A two-component, PMMA-based, aggregate filled mortar used for patching concrete substrates.

    a. Pro Thixo by Siplast

5. Color Finish Resin: A pigmented, PMMA-based resin for used to provide a color finish for both field and flashing membranes.

    a. Pro Color Finish by Siplast

6. Natural Quartz Anti-Skid Surfacing: A natural-colored, kiln-dried, quartz aggregate suitable for broadcast into a PMMA-based resin wearing layer.

    a. Pro Natural Quartz by Siplast

7. Ceramic Granule Anti-Skid Surfacing: No. 11 grade specification ceramic granules suitable for broadcast into a PMMA-based resin wearing layer.

    a. No. 11 Granules by Siplast

8. Joint Tape: A thermoplastic/rubber based sheet having a woven polyester backing used to treat joints between rigid insulation, flashing substrate panels and joints at cover plates used over sheet metal components. The tape shall have a minimum width of 4 inches.

    a. Eternabond Webseal by Eternabond

N. Primers & Mastics:

1. Primer: An asphalt/solvent blend meeting ASTM D 41, South Coast Air Quality District and Ozone Transport Commission requirements.

    a. Siplast PA-917 LS Primer by Siplast

2. Primer: A high flash, quick drying, asphalt solvent blend which meets or exceeds ASTM D 41 requirements.

    a. Siplast PA-1125 Asphalt Primer by Siplast

3. Primer for Self-Adhesive Sheets: A quick drying, low-VOC, water-based, high-tack primer specifically designed to promote adhesion of roofing and waterproofing sheets to approved substrates. Primer shall meet South Coast Air Quality District and Ozone Transport Commission requirements.

    a. Siplast TA-119 Primer by Siplast

4. Primer for Masonry and Vertical Concrete Substrates: A fast-curing PMMA-based primer for use over masonry, concrete repair materials and vertical concrete substrates

    a. Pro Primer R by Siplast

5. Primer for Wood, Plywood and Rigid Insulation Substrates: A fast-curing PMMA-based primer for use in over wood, plywood and rigid insulation substrates.

    a. Pro Primer W by Siplast

6. Primer for Horizontal Concrete Substrates: A fast-curing PMMA-based primer for use over horizontal concrete substrates.

    a. Pro Primer T by Siplast

7. Mastic: An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D 4586 Type II requirements.

    a. Siplast PA-1021 Plastic Cement by Siplast

O. Membrane Adhesives & Flashing Cements

1. Solvent-Free Membrane Adhesive: A single component, solvent-free modified asphalt adhesive designed for application of the specified roof membrane system.

    a. Siplast SFT Adhesive by Siplast

2. Solvent-Free Flashing Adhesive: A single-component, solvent-free modified adhesive. The adhesive blend shall be formulated in a grade for application of flashing materials.

    a. Siplast SFT Cement by Siplast

P. Sealant: A moisture-curing, non-slump elastomeric sealant designed for roofing applications. The sealant shall be approved by the roof membrane manufacturer for use in conjunction with the roof membrane materials. Acceptable types are as follows:

1. Siplast PS-715 Elastomeric Sealant by Siplast

Q. Accessory Products:

1. Accessory materials shall be as recommended in writing by membrane manufacturer, as required to comply with specified criteria.

2. Walktread: A prefabricated, puncture resistant polyester core reinforced, polymer modified bitumen sheet material topped with a ceramic-coated granule wearing surface.

    a. Thickness: 0.217 in (5.5 mm)
    b. Weight: 1.8 lb/ft² (8.8 kg/m²)

c. Width: 30 in (76.2 cm)

1) Paratread Roof Protection Material by Siplast

3. Cants and Tapered Edge Strips: Rigid perlite complying with ASTM C 728.

a. Cants: 3 inch by 3 inchminimum.

b. Tapered Edge Strips: 1 1/2 inch by 18 inch.

4. Termination Bar: 3/32 inch thick extruded aluminum or 14 gauge formed galvanized steel or stainless steel channel approximately 1 inch wide and punched with elongated holes approximately 1 inchon center.

5. Flashing Reinforcing Sheet Fasteners: Fasteners shall be approved by the manufacturer of the primary roofing products.

a. Wood/Plywood Substrates

1) 12 gauge, spiral or annular threaded shank, zinc coated steel roofing fastener having a minimum 1 inch head.

a) Square Cap by W.H. Maze Co.

b) 12 Gauge Simplex Nail by the Simplex Nail and Manufacturing Co.

R. Wood Curbs, Nailers, Wood Cants and Blocking: Per Rough Carpentry: Division 6.

S. Metal Flashings: Per Flashing and Sheet Metal: Division 7.

T. Expansion Joint Covers, Metal Curbs, Rails, Hatches and Pipe Curb Assemblies: Per Roof Accessories: Division 7.

U. Pre-manufactured Fascias: Per Pre-manufactured Fascias and Copings: Division 7.

6 Execution

6.1 Metal Deck Examination

A. Verify deck is supported and secured.

B. Verify deck is clean and smooth, free of depressions, waves, or projections, properly sloped to drains.

C. Verify deck surfaces are dry and free of snow or ice. Verify flutes of metal deck are clean and dry.

D. Verify that flatness and fastening of metal roof decks comply with installation tolerances specified in Metal Deck: Division 5.

6.1 LIGHTWEIGHT INSULATING CONCRETE Examination & preparation

A. Verify deck is supported and secured.

B. Verify deck is clean and smooth, free of depressions, waves, or projections, properly sloped to drains.

C. Perform and document fastener withdrawal tests confirming the ability of the approved fasteners to achieve the minimum pull out strength require by the roofing manufacturer to achieve the specified wind uplift pressures.

D. Saw cut and remove damaged and friable lightweight insulating concrete down to sound substrate.

E. Patch substrate with approved lightweight insulating concrete patch in accordance with manufacturer's instructions.

6.2 Concrete Deck Preparation for pmma membrane installation

A. General: Ensure that substrates are free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, bituminous products, release agents, laitance, paint, loose particles/friable matter, rust or any other material that would be detrimental to adhesion of the catalyzed primer and/or resin to the substrate. Some surfaces may require scarification, shotblasting, or grinding to achieve a suitable substrate.

B. Concrete Substrate Requirements: Structural concrete shall be cured a minimum of 28 days in accordance with ACI-308, have a minimum compressive strength of 3,500 psi (24 N/mm^2) and have a moisture content that conforms with the waterproofing system manufacturer's requirements prior to commencement of work.

C. Moisture Content Evaluation: Evaluate the level of moisture in the substrate to determine that the moisture content is acceptable for application of the specified waterproofing system. Concrete substrates shall have a maximum moisture content of 6% by weight and a maximum internal relative humidity of 75%.

D. Adhesion Testing for Concrete Substrates to Receive Resin Materials: Test the concrete substrate using a device conforming to ASTM D 4541 using a 50 mm dolly adhered with the specified catalyzed primer. Utilize the same concrete preparation methods as that which will be used prior to application of the waterproofing for areas to be evaluated for adhesion. Ensure that a

minimum adhesion value of 220 psi is obtained before application of the PMMA-based primer. If multiple areas or substrates are involved in the scope of work, evaluate each to determine suitability. Maintain testing/evaluation records.

E. Preparation of Newly Placed Concrete Substrates to Receive a Direct Application of Resin Materials: Newly placed concrete shall be cured a minimum of 28 days in accordance with ACI-308, and have a minimum compressive strength of 3,500 psi (24 N/mm^2). Following evaluation for moisture content and confirmation that the moisture content is at a acceptable level, shot-blast or scarify/shot blast the surface to provide a sound substrate free from laitance and to generate a concrete surface profile of CSP-2 to CSP-4 as defined by the ICRI. Grinding may be used as a preparation method for localized areas that cannot be reached by a shot blasting equipment provided that a surface profile of CSP-2 to CSP 4 can be generated. Repair spalls and voids on vertical or horizontal surfaces using the specified primer and preparation paste.

F. Preparation of Existing Concrete/Masonry Substrates to Receive Resin Materials: Existing concrete substrates shall have a minimum compressive strength of 3,500 psi (24 N/mm^2). Following evaluation for moisture content and confirmation that the moisture content is at an acceptable level, shot blast or scarify/shot-blast concrete or masonry surfaces to provide a sound substrate free from laitance and residue from bitumen, coal tar, primer, coatings, adhesives, sealer or any material that may inhibit adhesion of the specified primer. Generate a concrete surface profile of CSP-2 to CSP-4 as defined by the ICRI. Grinding may be used as a preparation method for localized areas that cannot be reached by a shot blasting equipment provided that a surface can be prepared to a CSP-2 to CSP 4. Repair spalls and voids on vertical or horizontal surfaces using the specified primer and preparation paste.

G. Repair and Leveling of Concrete Substrate to Receive Resin Materials: Before application of the roofing membrane, and after priming, fill all joints, cracks, voids, fractures, depressions, small indentations, and low areas in the substrate using the specified paste or repair mortar.

H. Static Crack and Cold Joint Preparation: Clean cracks/joints and treat with the specified PMMA primer. Fill the cracks and joints using the specified preparation paste prior to membrane/flashing application.

6.3 Concrete Deck Preparation for Temporary Roof / Vapor Retarder

A. Protect adjacent surfaces from staining or soiling caused by roofing application. Prevent liquid materials from entering or clogging drains, pipes, conduits or conductors. Prevent foreign materials from entering or clogging roof drains, stoppers or downspouts.

B. Apply primer to concrete and masonry substrates per manufacturer's written instructions.

C. Prime all sheet metal to be embedded in roofing system including, but not limited to, gravel stops, scuppers, edge trim and lead drain flashing with cut-back asphalt.

6.4 Substrate Panel Installation

A. Install substrate panel with end joints offset; edges of the panels shall be in moderate contact without forcing applied in strict accordance with the insulation manufacturer's requirements and the following instructions.

B. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.

C. Mechanically attached substrate panel with approved fasteners in a pattern sufficient to meet the wind uplift requirements established for the project.

6.5 Base Sheet Securement to Prepared Substrate

A. Lay the base sheet over entire area to be roofed, lapping sides 3 inches and ends 6 inches. Using the specified fasteners, fasten each sheet every 9 inches through laps and stagger fasten the remainder of the sheet in 2 rows on nominal 12 inch centers with fasteners in each row on 12 inch centers. Increase the fastening pattern by 70% at the perimeter of the roof and 160% at the corners.

B. Lay the base sheet over entire area to be roofed, lapping sides 3 inches and ends 6 inches. Using the specified fasteners, fasten each sheet every 7 1/2 inches through laps and stagger fasten the remainder of the sheet in 2 rows on nominal 12 inch centers with fasteners in each row on 10 inch centers. Increase the fastening pattern by 70% at the perimeter of the roof and 160% at the corners.

6.6 Temporary Roof / Vapor Retarder Installation

A. Torch Safety: Crew members handling torches shall be trained by an Authorized Certified Roofing Torch Applicator (CERTA) Trainer, be certified according to CERTA torch safety guidelines as published by the National Roofing Contractor's Association (NRCA), and follow torch safety practices as required by the contractor's insurance carrier. Designate one person on each crew to perform a daily fire watch. The designated crew member shall watch for fires or smoldering materials on all areas during roof construction activity, and for the minimum period required by CERTA guidelines after roofing material application has been suspended for the day.

B. Uniformly heat lower surface and preheat substrate to provide for an even, continuously flow of melted bitumen under sheet. A small bead of bitumen should be visible along both seams and under leading edge as membrane is unrolled.

C. Do not allow torch to contact flammable materials.

D. Use extreme caution when working around gas lines, electrical services and mechanical units.

E. Never place the hot torching device onto in-place membrane.

F. Provide fire extinguishers on roof during torching. Comply with applicable fire and safety regulations.

G. Provide inspection of the roofing for one (1) hour after termination of torching to check for smoldering or hot materials.

H. Apply layers of roofing free of wrinkles, creases or fish-mouths. Exert sufficient pressure on roll during application to ensure prevention of air pockets.

I. For slopes less than 2 1/2 in 12, apply sheets straight, perpendicular to slope and shingled in direction of flow starting from low points.

J. Apply temporary roof / vapor retarder to the prepared substrate utilizing minimum 3 inchside and end laps. Apply each sheet directly behind torch or adhesive applicator. Stagger end laps minimum 3 feet.

6.7 Aggregate Lightweight Insulating Concrete Installation

A. Refer to Section 035216-16

6.8 Polyisocyanurate Insulation Application

A. Insulation and Cover Panel Application:

1. General:

a. Install insulation panels with end joints offset; edges of the panels shall be in moderate contact without forcing applied in strict accordance with the insulation manufacturer's requirements and the following instructions.
b. Maintain a maximum panel size of 4 feet by 4 feet for polyisocyanurate and cover panel insulation applied in insulation adhesive.
c. When insulation is installed in two or more layers, stagger joints between layers.
d. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
e. Lay tapered boards, tapered edge strips, or cut boards to slope to form a minimum 3 feet square by 1 1/2 inch deep sump at roof drains.
f. Apply no more insulation than can be covered with membrane in same day.

g. Install tapered edge strips and cants wherever roofing intersects a vertical surface or a curb, at all penetrations, at perimeter of roof edge and as indicated.

h. Use tapered insulation or tapered edge strips to form crickets to direct water to roof drains. Install crickets behind all roof penetrations or irregularities, for example, roof-mounted equipment, curbs, rails and hatches which cross the down slope flow of water.

i. Insulation cover board shall be top layer of insulation assembly. Cut insulation cover board to follow slope of roof insulation at tapered edge strips, crickets, valleys, ridges and other breaks in slope.

2. Installation

a. Insulation - double layer: Mechanically attach both layers simultaneously to the substrate, using the specified fasteners, at a rate of 1 fastener per 2.7 square feet of panel area (12 per 4' x 8' panel). Stagger the panel joints between insulation layers.

b. Insulation - double layer: Install both layers in a solid mopping of hot asphalt. Stagger the panel joints between insulation layers.

c. Insulation - double layer: Install both layers in an application of the specified insulation adhesive in strict accordance with the requirements of the insulation adhesive [manufacturer, supplier]. Stagger the panel joints between insulation layers.

d. Tapered Insulation - additional layers: Set additional layers in a solid mopping of hot asphalt. Stagger the panel joints between insulation layers.

e. Insulation – top layer: Set the top layer of insulation in a solid mopping of hot asphalt. Stagger the panel joints between insulation layers.

f. Crickets: Construct crickets of tapered insulation panels in a layout as indicated on the roof plan.

g. Tapered Edge at Transitions: Field-cut, shape and install tapered edge strip at transitions of 1/4 inch or greater between substrate components to provide a smooth transition and proper support for the subsequent insulation layer or membrane/flashing system components.

6.9 Substrate Examination

A. Examine substrate surfaces to receive modified bitumen sheet roofing system and associated work and conditions under which roofing will be installed.

1. Verify roof openings, pipes, conduit, sleeves, ducts, and vents through roof are solidly set.

2. Verify that curbs, rails, pipe curb assemblies, rooftop mechanical equipment and other roof-mounted elements specified elsewhere are in place and properly anchored.

B. Report defects or deficiencies in writing to contractor, design professional and owner's representatives.

C. Do not proceed with roofing work until defects or deficiencies have been corrected.

D. Acceptance: Commencement of roofing work constitutes acceptance of substrate as dry and meeting criteria for proper installation. Removal and replacement of roofing required for or caused by defects or deficiencies in substrate shall be performed at no additional cost.

6.10 Base Sheet Securement to Prepared Substrate

A. Lay the base sheet over entire area to be roofed, lapping sides 3 inches and ends 6 inches. Using the specified fasteners, fasten each sheet every 9 inches through laps and stagger fasten the remainder of the sheet in 2 rows on nominal 12 inch centers with fasteners in each row on 12 inch centers. Increase the fastening pattern by 70% at the perimeter of the roof and 160% at the corners.

B. Lay the base sheet over entire area to be roofed, lapping sides 3 inches and ends 6 inches. Using the specified fasteners, fasten each sheet every 7 1/2 inches through laps and stagger fasten the remainder of the sheet in 2 rows on nominal 12 inch centers with fasteners in each row on 10 inch centers. Increase the fastening pattern by 70% at the perimeter of the roof and 160% at the corners.

6.11 Preparation

A. Protect adjacent surfaces from staining or soiling caused by roofing application. Prevent liquid materials from entering or clogging drains, pipes, conduits or conductors. Prevent foreign materials from entering or clogging roof drains, stoppers or downspouts.

B. Preparation of Steel/Aluminum Substrates: Grind to generate a "white-metal" surface and remove loose particles. Extend preparation area a minimum of 1/2-inch (13 mm) beyond the termination of the roofing/flashing system. Notch steel surfaces to provide a rust-stop where detailed.

C. Rigid Plastic Flashing Substrates: Evaluate the plastic for compatibility with the resin materials. Lightly abrade the surface to receive the flashing system, clean plastic substrates using the specified the cleaner/solvent and allow to dry. Extend the preparation area a minimum of 1/2 inch (13 mm) beyond the termination of the flashing system.

D. Preparation of Wood/Plywood Flashing Substrates to receive Resin: Prime wood/plywood surfaces to receive the specified flashing system with the specified PMMA-based primer at the

rate specified by the resin manufacturer and allow primer to cure. Tape the joints between plywood or wood panels using the specified tape and prior to application of the flashing system.

E. Preparation of DensDeck Prime Substrates to Receive Resin: Ensure that the insulation panels have been properly secured as outlined in Specification 07220. Inspect the surface of the panel insulation system to ensure that edges are level and even between adjoining panels. Prime surfaces using the specified PMMA-based primer at the rate specified by the resin manufacturer and allow primer to cure. Tape the panel joints and panel terminations at nailers, walls, perimeter and penetrations using the specified tape, centering the tape strips over the joints or panel edges.

F. Apply asphaltic primer to concrete and masonry substrates to receive ply sheets per manufacturer's written instructions.

G. Prime all sheet metal to be embedded in roofing system including, but not limited to, gravel stops, scuppers, edge trim and lead drain flashing with cut-back asphalt.

H. Ply sheet installation

1. Apply one ply sheet to receive the PMMA membrane system.

2. Torching:

    a. Torch Safety: Crew members handling torches shall be trained by an Authorized Certified Roofing Torch Applicator (CERTA) Trainer, be certified according to CERTA torch safety guidelines as published by the National Roofing Contractor's Association (NRCA), and follow torch safety practices as required by the contractor's insurance carrier. Designate one person on each crew to perform a daily fire watch. The designated crew member shall watch for fires or smoldering materials on all areas during roof construction activity, and for the minimum period required by CERTA guidelines after roofing material application has been suspended for the day.
    b. Uniformly heat lower surface and preheat substrate to provide for an even, continuously flow of melted bitumen under sheet. A small bead of bitumen should be visible along both seams and under leading edge as membrane is unrolled.
    c. Do not allow torch to contact flammable materials.
    d. Use extreme caution when working around gas lines, electrical services and mechanical units.
    e. Never place the hot torching device onto in-place membrane.
    f. Provide fire extinguishers on roof during torching. Comply with applicable fire and safety regulations.
    g. Provide inspection of the roofing for one (1) hour after termination of torching to check for smoldering or hot materials.

3. Apply layers of roofing free of wrinkles, creases or fishmouths. Exert sufficient pressure on roll during application to ensure prevention of air pockets.

    a. For slopes less than 2 1/2 in 12, apply sheets straight, perpendicular to slope and shingled in direction of flow starting from low points.

4. Apply base ply to the prepared substrate utilizing minimum 3 inch side and end laps. Apply each sheet directly behind torch or adhesive applicator. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply pressure to top seal T-laps immediately following sheet application. Stagger end laps minimum 3 feet.

6.12 PMMA membrane installation

A. Mixing of Resin Products

1. Preparation/Mixing/Catalyzing Resin Products: Pour the desired quantity of resin into a clean container and using a spiral mixer or mixing paddle, stir the liquid for the time period specified by the resin manufacturer. Calculate the amount of catalyst powder needed using the manufacturer's guidelines and add the pre-measured catalyst to the resin component. Mix again for the time period specified by the resin manufacturer, ensuring that the product is free from swirls and bubbles. To avoid aeration, do not use a spiral mixer unless the spiral section of the mixer can be fully contained in the liquid during the mixing process. Mix only enough product to ensure that it can be applied before pot life expires.

B. Preparation Paste and Primer Mixing / Application

1. Primer Application: Apply primer resin using a roller or brush at the rate specified by the primer manufacturer over qualified and prepared substrates. Apply primer resin at the increased rate specified by the primer manufacturer over DensDeck Prime or other porous substrates. Do not let resin pool or pond. Do not under-apply or over-apply primers as this may interfere with proper primer catalyzation. Make allowances for waste, including saturation of roller covers and application equipment.

2. Paste Application: Apply catalyzed preparation paste using a trowel over prepared and primed substrates. Before application of any resin product over cured paste, wipe the surface of the paste using the specified cleaner/solvent and allow to dry. Treat the surface again if not followed up by resin application within 60 minutes.

C. Flashing and Membrane Application

1. Base Flashing Application

a. Using masking tape, mask the perimeter of the area to receive the flashing system. Apply resin primer to substrates requiring additional preparation and allow primer to cure.
b. Pre-cut fleece to ensure a proper fit at transitions and corners prior to membrane application.
c. Apply an even, generous base coat of flashing resin to prepared surfaces using a roller at the rate specified by the resin manufacturer. Work the fleece into the wet, catalyzed resin using a brush or roller to fully embed the fleece in the resin and remove trapped air. Lap fleece layers a minimum of 2 inch (5 cm) and apply an additional coat of catalyzed resin between layers of overlapping fleece. Again using a roller, apply an even top coat of catalyzed resin immediately following embedment of the fleece at the rate specified by the resin manufacturer, ensuring that the fleece is fully saturated. Ensure that the flashing resin is applied to extend beyond the fleece (maximum ¼-inch (6 mm)). Remove the tape before the catalyzed resin cures. Make allowances for waste, including saturation of roller covers and application equipment.
d. Should work be interrupted for more than 12 hours or the surface of the cured resin becomes dirty or contaminated by the elements, wipe the surface to be lapped with new flashing resin using the specified cleaner/solvent. Allow the surface to dry for a minimum 20 minutes and a maximum 60 minutes before continuing work.

2. Field Membrane Application

a. Using the specified cleaner/solvent, wipe flashing membrane surfaces to be lapped with field membrane. Allow the surface to dry for a minimum 20 minutes before continuing work.
b. Apply an even, generous base coat of field membrane resin to prepared surfaces using a roller at the rate specified by the resin manufacturer. Work the fleece into the wet, catalyzed resin using a brush or roller to fully embed the fleece in the resin and remove trapped air. Lap fleece layers a minimum of 2 inch (5 cm) and apply an additional coat of catalyzed resin between layers of overlapping fleece. Again using a roller, apply an even top coat of catalyzed resin immediately following embedment of the fleece at the rate specified by the resin manufacturer, ensuring that the fleece is fully saturated. Ensure that the flashing resin is applied to extend beyond the fleece (maximum ¼-inch (6 mm)). Make allowances for waste, including saturation of roller covers and application equipment. Allow 2 hours cure time prior to exposing the membrane to foot traffic.

3. Color Finish Application

a. Ensure the field and flashing membrane has been in place for a minimum 2 hours. Using the specified cleaner/solvent, wipe field membrane surfaces to receive the color finish layer. Allow the surface to dry for a minimum 20 minutes before continuing work.

b. Apply an even top coat of catalyzed color finish resin at the rate specified by the resin manufacturer. Allow 2 hours cure time prior to exposing the membrane to foot traffic.

4. Walktread / Skid-Resistant Surfacing

a. Quartz/Granule Anti-Skid Application: Mask the areas to receive the anti-skid system using masking tape. Apply an additional top coat of catalyzed roof resin at the rate specified by the resin manufacturer, immediately broadcast quartz/granules to refusal, and allow to cure. Remove tape before the resin cures. Apply a layer of catalyzed color coat over quartz surfaces. Allow 2 hours cure time prior to exposing the membrane to foot traffic.

6.13 Field Quality Control

A. Manufacturer's Representative: Manufacturer's Field Technical Representative shall inspect construction activities, at start of work, minimum two (2) hours per week during work and at completion of each area of work. Representative shall attend meetings concerning roofing when indicated or as scheduled to coordinate work. Representative shall submit a written report after each inspection noting as a minimum weather conditions, condition of stored materials, work in progress, condition of substrates, number of workers and which workers have completed manufacturers' training programs, temperature of liquid membrane in kettle (if applicable) and at point of application and all other pertinent data. Services of manufacturer's field representative are not intended to supersede manufacturer's written requirements for inspection and testing to issue warranty.

6.14 Cleaning

A. Clean roof areas of all roofing tools and unused materials.

B. Clean spilled membrane or other materials from exposed surfaces which were not to receive roofing.

6.15 Protection

A. Protect roof system from construction traffic. Utilize temporary protection of roof system if extensive roof traffic is required.

END OF SECTION

076200

SHEET METAL FLASHING AND TRIM

7 General

7.1 Related documents

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

7.2 Summary

A. Preparation of surfaces to receive factory fabricated metal perimeter.

B. Installation of factory fabricated and finished metal perimeter.

7.3 Related Work Specified Elsewhere

A. Division 1: Applicable Sections

B. Division 1: Inspection and Testing Services

C. Division 6: Rough Carpentry

7.4 Reference Standards

A. Factory Mutual (FM Global)

B. American Society for Testing and Materials (ASTM)

C. National Waterproofing Contractors Association (NRCA)

D. Sheet Metal & Air Conditioning Contractors National Association (SMACNA)

E. American National Standards Institute (ANSI)

F. Single Ply Roofing Industry (SPRI)

7.5 Definitions

A. Waterproofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of waterproofing terms related to this section.

7.6 Action submittals

A. Product and material safety data sheets for each product proposed for use.

7.7 **I**nformational submittals

A. Submit a letter from the roofing membrane manufacturer confirming that the factory fabricated metal accessory systems furnished for the project are supplied or manufactured by the roofing membrane manufacturer.

B. Latest edition of prefabricated metal component manufacturer/supplier's installer's guide for factory fabricated metal perimeter systems.

C. Samples from the manufacturer/supplier sized to represent metal components adequately.

D. Copies of the manufacturer/supplier's color selection chart showing the manufacturer/supplier's full range of standard colors as well as physical samples of each standard color.

E. Sample copy of the roofing system manufacturer's inclusion addendum offering coverage of the factory fabricated metal perimeter systems.

F. Latest edition of the roofing system manufacturer's specifications and installation instructions.

G. Sample copy of the specified guarantee.

7.8 Quality Assurance

A. Agency Approvals: The proposed roofing system shall conform to the following requirements. No other testing agency approvals will be accepted.

1. The roof perimeter fascia systems shall be certified through third party verification by the manufacturer/supplier to meet performance design criteria according to the most recent edition of ANSI/SPRI/FM 4435/ES-1: Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems.

B. Local Regulations: Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.

C. Manufacturer Requirements: Ensure that the prefabricated metal component manufacturer/supplier provides direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conducts a final inspection upon successful completion of the project.

7.9 Delivery, Handling And Storage

A. Delivery: Deliver materials in the manufacturer's original packaging.

B. Storage: Store materials out of direct exposure to the elements.

C. Strippable Film Masking: Do not remove the strippable film masking on the metal component until immediately following installation. Do not allow extended UV or heat exposure to metal components covered with strippable film masking.

D. Damaged Material: Any materials that are found to be damaged will be automatically rejected, removed and replaced at the Contractor's expense.

7.10 Project Conditions

A. Requirements Prior to Job Start

1. Related Work: Verify that all related work performed by other trades is complete prior to installing the factory fabricated metal components.

2. Component Substrate Condition: Mounting surfaces shall be straight and secure and provide adequate widths to properly support the factory fabricated metal components.

3. Safety: Familiarize every member of the application crew with all safety regulations recommended by OSHA, SMACNA and other industry or local governmental groups.

B. Protection Requirements

1. Component Protection: Protect newly applied factory fabricated metal component surfaces against mechanical damage.

2. Limited Access: Prevent access by the public to materials, tools and equipment during the course of the project.

3. Debris Removal: Remove all debris daily from the project site.

4. Site Condition: Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by construction.

7.11 Warranty

A. Manufacturer’s Guarantee: Furnish the Owner with the roofing manufacturer's inclusion addendum to the guarantee offering coverage of the factory fabricated raised edge, gravel stop,

coping, expansion joint, systems under the standard terms of the roofing membrane/system guarantee.

8 Products

8.1 DESCRIPTION OF PREFABRICATED METAL SYSTEMS

A. Prefabricated Metal Coping System: Metal Coping components shall be factory fabricated according to the requirements of the roofing membrane manufacturer. The metal coping system shall consist of the following components:

1. Factory formed anchor/cleat plates fabricated from 16 gauge, G90 galvanized steel.

2. Factory formed gutter/splice plates fabricated from 0.032" aluminum with EPDM sealing gaskets.

3. A factory formed coping cap fabricated from minimum 24 gauge galvanized steel, 0.050" aluminum, having a mill, coil coated Kynar, finish.

4. Factory formed welded miters and end caps.

    a. Paraguard Metal Coping System, by Siplast
    b. Tremco
    c. Garland

B. Prefabricated Raised Roof Edge: Prefabricated roof edge components shall be factory formed according to the requirements of the membrane manufacturer. The roof edge system shall consist of the following components:

1. A factory formed cant dam with pre-punched nail holes, fabricated from 24 gauge, G90 galvanized steel, having a height of 2 inches above roof level, secured using galvanized roofing nails.

2. A factory formed retainer cleat with pre-punched nail holes, fabricated from 20 gauge, G90 galvanized steel, secured using galvanized roofing nails.

3. A factory formed exterior fascia, fabricated from minimum 24 gauge galvanized steel, 0.050" aluminum, having a mill, coil coated Kynar, finish.

4. Factory formed concealed splice plates.

5. Factory formed welded miters and end caps.

6. Factory formed leveling angles for accurate cant dam installation.

7. Factory formed welded sump pans and spill out scuppers.

    a. Paraguard Raised Edge System, by Siplast
    b. Tremco
    c. Garland

C. Prefabricated Gravel Stop: Prefabricated gravel stop components shall be factory formed according to the requirements of the membrane manufacturer. The gravel stop system shall consist of the following components:

1. A factory formed retainer cleat with pre-punched nail holes fabricated from 24 gauge, G90 galvanized steel, secured using galvanized roofing nails.

2. A factory formed gravel stop with pre-punched nailing holes, secured using galvanized roofing nails. fabricated from minimum 24 gauge galvanized steel, 0.050" aluminum, having a mill, coil coated Kynar finish.

3. Factory formed concealed splice plates.

4. Factory formed welded miters.

    a. Proform Gravel Stop, by Siplast
    b. Tremco
    c. Garland

D. Prefabricated Fascia Extender: Prefabricated fascia extender components shall be factory formed according to the requirements of the membrane manufacturer. The fascia extender stop system shall consist of the following components:

1. A factory formed retainer cleat with pre-punched nail holes fabricated from 24 gauge, G90 galvanized steel, secured using galvanized roofing nails.

2. A factory formed exterior fascia extender with pre-punched nailing holes, secured using galvanized roofing nails. Fabricated from minimum 24 gauge galvanized steel, 0.050" aluminum, having a mill, coil coated Kynar finish.

3. Factory formed concealed splice plates.

4. Factory formed welded miters.

    a. Proform Fascia Extender, by Siplast

b. Tremco
c. Garland

E. Prefabricated Roof-To-Roof-Expansion Joint: Prefabricated roof-to-roof expansion joint components shall be factory formed according to the requirements of the membrane manufacturer. The roof-to-roof expansion joint system shall consist of the following components:

1. A factory formed cap fabricated from minimum 24 gauge galvanized steel, 0.050" aluminum, having a mill, coil coated Kynar finish.

2. A factory formed traveler cleat fabricated from 20 gauge, G90 galvanized steel.

3. Specially designed shouldered cleat fasteners to allow for traveler cleat movement.

4. Factory formed gutter/splice plates fabricated from 0.040 inch aluminum with EPDM sealing gaskets.

5. Factory formed curb rails fabricated from 24 gauge, G90 galvanized steel.

6. A flexible membrane vapor retarder / insulation retainer.

7. Factory formed welded miters, end caps, tees, and crosses.

a. Paraguard Roof-To-Roof Expansion Joint System, by Siplast
b. Tremco
c. Garland

F. Prefabricated Roof-To-Wall Expansion Joint: Prefabricated roof-to-wall expansion joint components shall be factory formed according to the requirements of the membrane manufacturer. The roof-to-wall expansion joint system shall consist of the following components:

1. A factory formed cap fabricated from minimum 24 gauge galvanized steel, 0.050" aluminum, having a mill, coil coated Kynar finish.

2. A factory formed traveler cleat fabricated from 20 gauge, G90 galvanized steel.

3. Specially designed shouldered cleat fasteners to allow for traveler cleat movement.

4. Factory formed gutter/splice plates fabricated from 0.040 inch aluminum with EPDM sealing gaskets.

5. Factory formed curb rail fabricated from 24 gauge, G90 galvanized steel.

6. A flexible membrane vapor retarder / insulation retainer.

7. Factory formed welded miters and end caps

   a. Paraguard Roof-To-Wall Expansion Joint System, by Siplast
   b. Tremco
   c. Garland

G. Through-Wall, Ribbed, Sheet Metal Flashing: Manufacture through-wall sheet metal flashing for embedment in masonry, with ribs at 3-inch (75-mm) intervals along length of flashing to provide integral mortar bond. Manufacture through-wall flashing with snaplock receiver on exterior face to receive counterflashing.

   1) Copper: 10-oz. (0.34-mm-thick) minimum for fully concealed flashing; 16 oz. (0.55 mm thick) elsewhere.

      a) Cheney Flashing Company

      b) Keystone Flashing Company Inc.

      c) Or equal

H. Reglets: Units of type, material, and profile required, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated [with factory-mitered and -welded corners and junctions.

      a) Hickman Company W.P.

      b) Cheney Flashing Company

      c) Keystone Flashing Company, Inc.

   2) Material: Copper, 16 oz./sq. ft. (0.55 mm thick); Aluminum, 0.024 inch (0.61 mm) thick; Galvanized steel, 0.022 inch (0.56 mm) thick.
   3) Surface-Mounted Type: Provide with slotted holes for fastening to substrate, with neoprene or other suitable weatherproofing washers, and with channel for sealant at top edge.
   4) Stucco Type: Provide with upturned fastening flange and extension leg of length to match thickness of applied finish materials.

5) Concrete Type: Provide temporary closure tape to keep reglet free of concrete materials, special fasteners for attaching reglet to concrete forms, and guides to ensure alignment of reglet section ends.
6) Masonry Type: Provide with offset top flange for embedment in masonry mortar joint.
7) Accessories:

    a) Flexible-Flashing Retainer: Provide resilient plastic or rubber accessory to secure flexible flashing in reglet where clearance does not permit use of standard metal counterflashing or where Drawings show reglet without metal counterflashing.
    b) Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing's lower edge.

8) Finish: Mill or with manufacturer's standard color coating.

2. FABRICATION, GENERAL

a. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.

    1) Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
    2) Obtain field measurements for accurate fit before shop fabrication.
    3) Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
    4) Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

b. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

c. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to tolerances specified in MCA's "Guide Specification for Residential Metal Roofing."

d. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.

1) Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
2) Use lapped expansion joints only where indicated on Drawings.

e. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.

f. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

g. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard and by FM Global Property Loss Prevention Data Sheet 1-49 for application, but not less than thickness of metal being secured.

h. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

i. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

j. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints where necessary for strength.

11. Do not use graphite pencils to mark metal surfaces.

12. ROOF-DRAINAGE SHEET METAL FABRICATIONS

a. Hanging Gutters: Fabricate to cross section required, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inch- (2400-mm-) long sections. Furnish flat-stock gutter brackets and flat-stock gutter spacers and straps fabricated from same metal as gutters, of size recommended by cited sheet metal standard but with thickness not less than twice the gutter thickness. Fabricate expansion joints, expansion-joint covers, gutter bead reinforcing

bars, and gutter accessories from same metal as gutters. Shop fabricate interior and exterior corners.

1) Gutter Profile: Style A according to cited sheet metal standard.
2) Expansion Joints: Built in.
3) Gutters with Girth up to 15 Inches (380 mm): Fabricate from the following materials:

    a) Copper: [16 oz./sq. ft. (0.55 mm thick).
    b) Aluminum: [0.032 inch (0.81 mm)] thick.
    c) Galvanized Steel: [0.022 inch (0.56 mm)] thick.

4) Gutters with Girth 16 to 20 Inches (410 to 510 mm): Fabricate from the following materials:

    a) Copper: [16 oz./sq. ft. (0.55 mm thick)] .
    b) Aluminum: [0.040 inch (1.02 mm)] thick.
    c) Galvanized Steel: [0.028 inch (0.71 mm)] thick.

b. Downspouts: Fabricate rectangular downspouts to dimensions indicated, complete with mitered elbows. Furnish with metal hangers from same material as downspouts and anchors.
    1) Fabricate from the following materials:

        a) Copper: [16 oz./sq. ft. (0.55 mm thick)].
        b) Aluminum: [0.024 inch (0.61 mm)] thick.
        c) Galvanized Steel: [0.022 inch (0.56 mm)] thick.

c. Parapet Scuppers: Fabricate scuppers to dimensions required, with closure flange trim to exterior, 4-inch- (100-mm-) wide wall flanges to interior, and base extending 4 inches (100 mm) beyond cant or tapered strip into field of roof. Fasten gravel guard angles to base of scupper. Fabricate from the following materials:

    1) Copper: [16 oz./sq. ft. (0.55 mm thick)].
       Aluminum: [0.032 inch (0.81 mm)].
    2) Galvanized Steel: [0.028 inch (0.71 mm)].

d. Conductor Heads: Fabricate conductor heads with flanged back and stiffened top edge and of dimensions and shape required, complete with outlet tubes, exterior flange trim and built-in overflows. Fabricate from the following materials:

    1) Copper: [16 oz./sq. ft. (0.55 mm thick)].
    2) Aluminum: [0.032 inch (0.81 mm)] thick.

3) Galvanized Steel: [0.028 inch (0.71 mm)] thick.

e. Counterflashing: [Shop fabricate interior and exterior corners.]Fabricate from the following materials:

1) Copper: [16 oz./sq. ft. (0.55 mm thick)].
2) Aluminum: [0.032 inch (0.81 mm)] thick.
3) Galvanized Steel: [0.022 inch (0.56 mm)] thick.

f. Flashing Receivers: Fabricate from the following materials:

1) Copper: [16 oz./sq. ft. (0.55 mm thick)].
2) Aluminum: [0.032 inch (0.81 mm)] thick.
3) Galvanized Steel: [0.022 inch (0.56 mm)] thick.

PART 43 EXECUTION

8.2 SUBSTRATE PREPARATION

A. Perimeter Nailers: Perimeter nailers shall be flat and level to the building perimeter edge. The front edge of the nailer must be flush with the outside face or wall of the building. Anchor all perimeter nailers in strict accordance with the guidelines se forth in FM Global Property Loss Prevention Data Sheet 1-49.

B. Curbs for Expansion Joint Components: Curbs must be straight, level, and properly anchored to the building structural deck. Any curbs, which are improperly installed or anchored, must be corrected prior to installation of the expansion joint systems.

C. Flashing Membrane Installation: Ensure that all roofing flashing treatments used in conjunction with factory fabricated metal components are installed according to the roofing membrane manufacturer's specifications, current technical guide, and details prior to installation of the factory fabricated metal component.

D. Surface Cleaning: Sweep or vacuum all surfaces to receive the metal components, removing all loose aggregate, soil, and foreign substances prior to installation of the factory fabricated metal components.

8.3 PREFABRICATED METAL COMPONENT INSTALLATION

A. Install metal components in accordance with the roofing/waterproofing manufacturer's instructions and the following requirements.

B. Prefabricated Metal Coping Installation

1. Set anchor cleats at corners and/or ends. Position all cleats in strict accordance with the factory coping system manufacturer's installation instructions and code approval requirements, pulling each cleat snugly against the exterior face of the building.

2. Place corner support clips at all corners to support the cap. Set the coping system manufacturer's support clip away from the corner approximately 1/2 inch and fasten in accordance with the coping system manufacturer's installation instructions.

3. Install guttered splices centered on the anchor cleats with drip edge portion on the outside of the cleat.

4. Beginning again at the corners and/or ends, hook the outside leg of the coping cap over the outside face of the cleats first. Rotate the cap over the top of the wall pressing lightly, but firmly, on the top of the cap until the inside leg fully locks over the roof side of the anchor cleats. Allow a 1/8 inch gap between coping sections for thermal movement. Increase the gap to 1/4 inch when installing in temperatures below 40°F.

5. Isolate continuous runs of coping into manageable zones to control thermal movement by securing every fifth section of coping cap to an anchor cleat in accordance with the coping system manufacturer's installation instructions.

C. Prefabricated Raised Roof Edge

1. Beginning at the corners, install the factory fabricated cant dam over the base ply of roof membrane, securing it to the perimeter nailer in accordance with the raised roof edge system manufacturer's installation instructions.

2. After completion of the installation of the roofing flashing membrane plies over the cant dam, Place the retainer cleat over the finished flashing membrane firmly, without forcing. The retainer cleat shall be level and the nailing slots shall align centered with the nailer underneath the membrane/cant dam assembly. Fasten the retaining cleat in accordance with the raised roof edge system manufacturer's installation instructions.

3. Beginning again at the corners, install the exterior fascia by setting it onto the retainer cleat and firmly pushing down until the fascia snaps over the front and back of the retainer cleat. Slide a

concealed joint splice plate halfway into the fascia to allow the next section to fit halfway over the joint splice plate as well. Allow a 1/8 inch gap between raised roof edge sections for thermal movement. Increase the gap to 1/4 inch when installing in temperature below 40°F.

D. Prefabricated Gravel Stop

1. Place the continuous retainer cleat to the roofing surface firmly against the perimeter nailer. The retainer cleat should be level and the nailing slots should align centered with the nailer underneath. Fasten the retaining cleat in accordance with the gravel stop system manufacturer's installation instructions.

2. Starting at the corners, trowel a bead of the roofing manufacturer's specified mastic over the base ply of membrane where the flange of the exterior fascia is to be set. Hook the drip edge of the exterior fascia over the retainer cleat and fasten the flange through the pre-punched holes in accordance with the gravel stop system manufacturer's installation instructions. Slide a concealed joint splice plate halfway into the fascia to allow the next section to fit halfway over the joint splice plate as well. Allow a 1/8 inch gap between gravel stop sections for thermal movement. Increase the gap to 1/4 inch when installing in temperature below 40°F.

3. After installation of the factory fabricated gravel stop is complete, ensure that the roofing stripping and finish plies are installed in accordance with the roofing membrane manufacturer's specifications and details

E. Prefabricated Fascia Extender

1. Anchor the continuous galvanized clip to the wall surface fastened at 12 inches on center.

2. Hook the drip edge of the fascia extender over the continuous clip. Use joint splice plates behind adjoining sections of fascia extender. Fasten the top flange of the fascia extender at 12 inches on center. Allow a 1/8 inch gap between raised roof edge sections for thermal movement. Increase the gap to 1/4 inch when installing in temperature below 40°F.

F. Prefabricated Roof to Roof Expansion Joint

1. Fasten the curb rails to the previously flashed curbs using roofing nails every 24 inches on center.

2. Place the traveler cleat over the curb rails, allowing the horizontal slots to center over the rail. Secure the traveler cleat in accordance with the expansion joint system manufacturer's installation instructions.

3. Guttered splice plates are placed over the traveler cleat on 5 foot centers, ensuring that a splice plate is placed centered where there will be a joint in the cap sections. Set each guttered splice plate in a 1 inch dollop of the roofing manufacturer's specified elastomeric sealant.

4. Hook the bottom edge of the cap face of one side securely on the drip edge of the traveler cleat. While maintaining engagement, rotate the cap length over the cleat and press the cap firmly downward on the back edge above the traveler cleat until it locks onto the cleat. Allow a 1/8 inch gap between expansion joint sections for thermal movement. Increase the gap to 1/4 inch when installing in temperature below 40°F

5. Isolate continuous runs of expansion joint into manageable zones to control thermal movement by securing every fifth section of expansion joint cap to the traveler cleat in accordance with the expansion joint system manufacturer's installation instructions.

G. Prefabricated Roof to Wall Expansion Joint

1. Fasten the curb rail to the previously flashed curb using roofing nails spaced 24 inches on center.

2. Fasten the wall rail to the wall using fasteners approved for use with the wall substrate every 24 inches on center.

3. Place the traveler cleat over the curb rail, allowing the horizontal slots to center over the rail. Secure the traveler cleat through the slots using the drill point screws and extruded washers to the curb first and then to the wall centered over the installed rails.

4. Place guttered splice plates over the traveler cleat on 5 foot centers, ensuring that a splice plate is placed centered where there will be a joint in the cap sections. Set each guttered splice plate in a 1 inch dollop of the roofing/waterproofing manufacturer's specified elastomeric sealant.

5. Hook the bottom edge of the cap face securely on the drip edge of the traveler cleat. While maintaining engagement, rotate the cap length over the cleat positioning the top leg of the cap firmly against the wall. Fasten the top leg of the cap to the wall using fasteners approved for use with the wall substrate at 12 inches on center. Flash or seal the top leg of the expansion joint cap in accordance with the roofing/waterproofing membrane manufacturer's specifications and details. Allow a 1/8 inch gap between expansion joint sections for thermal movement. Increase the gap to 1/4 inch when installing in temperature below 40°F.

6. Isolate continuous runs of expansion joint into manageable zones to control thermal movement by securing every fifth section of expansion joint cap to the traveler cleat in accordance with the expansion joint system manufacturer's installation instructions

2.4 INSTALLATION, GENERAL

a. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners**,** solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

    1) Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
    2) Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
    3) Space cleats not more than 12 inches (300 mm) apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
    4) Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
    5) Torch cutting of sheet metal flashing and trim is not permitted.
    6) Do not use graphite pencils to mark metal surfaces.

b. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.

    1) Coat concealed side of uncoated-aluminum and stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
    2) Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.

c. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet (3 m) with no joints within 24 inches (600 mm) of corner or intersection.

    1) Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.
    2) Use lapped expansion joints only where indicated on Drawings.

d. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws or

substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.

e. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

f. Seal joints as required for watertight construction.

1) Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1 inch (25 mm) into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F (4 deg C).
2) Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."

g. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets with solder to width of 1-1/2 inches (38 mm); however, reduce pre-tinning where pre-tinned surface would show in completed Work.

1) Do not use torches for soldering.
2) Heat surfaces to receive solder, and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
3) Stainless-Steel Soldering: Tin edges of uncoated sheets, using solder for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.
4) Copper Soldering: Tin edges of uncoated sheets, using solder for copper.

h. Rivets: Rivet joints in where necessary for strength.

2.5 ROOF-DRAINAGE SYSTEM INSTALLATION

a. General: Install sheet metal roof-drainage items to produce complete roof drainage system according to cited sheet metal standard unless otherwise

indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.

b. Hanging Gutters: Join sections with riveted and soldered joints or joints sealed with sealant. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchor them in position. Provide end closures and seal watertight with sealant. Slope to downspouts.

1) Fasten gutter spacers to front and back of gutter.
2) Anchor gutter with [gutter brackets] [straps] [twisted straps] spaced not more than 24 inches (600 mm) apart to roof deck, unless otherwise indicated, and loosely lock to front gutter bead.
3) Anchor gutter with spikes and ferrules spaced not more than [24 inches (600 mm)] [30 inches (760 mm)] apart.
4) Install gutter with expansion joints at locations indicated, but not exceeding, [50 feet (15.24 m)] apart. Install expansion-joint caps.

c. Downspouts: Join sections with 1-1/2-inch (38-mm) telescoping joints.

1) Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches (1500 mm) o.c.

2) Retain one of two subparagraphs below; delete both if shown on Drawings:
Provide elbows at base of downspout to direct water away from building.

Connect downspouts to underground drainage system. Retain "Splash Pans" Paragraph below for metal splash pans. Delete for downspouts that connect to underground drainage system.

d. Parapet Scuppers: Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cants or tapered edge strips, and under roofing membrane.

1) Anchor scupper closure trim flange to exterior wall and solder or seal with elastomeric sealant to scupper.
2) Loosely lock front edge of scupper with conductor head.
3) Solder or seal with elastomeric sealant exterior wall scupper flanges into back of conductor head.

e. Conductor Heads: Anchor securely to wall, with elevation of conductor head rim at minimum of 1 inch (25 mm) below [scupper or gutter] discharge.

f. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints minimum of 4 inches (100 mm) in direction of water flow.

2.6 ROOF FLASHING INSTALLATION

a. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

b. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches (100 mm) over base flashing. Lap counterflashing joints minimum of 4 inches (100 mm). Secure in waterproof manner by means of snap-in installation and sealant or lead wedges and sealant.

2.7 MISCELLANEOUS FLASHING INSTALLATION

a. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with elastomeric sealant to equipment support member.

b. Overhead-Piping Safety Pans: Suspend pans from structure above, independent of other overhead items such as equipment, piping, and conduit, unless otherwise indicated on Drawings. Pipe and install drain line to plumbing waste or drainage system.

2.8 ERECTION TOLERANCES

a. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

b. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerances specified in MCA's "Guide Specification for Residential Metal Roofing."

7. CLEANING AND PROTECTION

a. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

b. Clean and neutralize flux materials. Clean off excess solder.

c. Clean off excess sealants.

d. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.

e. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

075600

FLUID-APPLIED ROOFING AND FLASHING FOR METAL

PART 1 GENERAL

1.01 SECTION INCLUDES:

A. Evaluation and Preparation of Substrate to Receive Roofing Materials.
B. Silane terminated polymer-based Roof Flashing Application.
C. Silane terminated polymer-based Roof Membrane Application.

1.03 REFERENCE STANDARDS

Agencies which may be used as references throughout this specification section include:

ASTM	American Society for Testing and Materials Philadelphia, PA
NRCA	National Roofing Contractors Association Rosemont, IL
CRCA	Canadian Roofing Contractors Association Ottawa, ON
OSHA	Occupational Safety and Health Administration

	Washington, DC
UL	Underwriters Laboratories
	Northbrook, IL
SMACNA	Sheet Metal and Air Conditioning Contractors National Association, Inc.
	Chantilly, VA

1.04 SUBMITTALS

A. Submittals Prior to Contract Award:

1. Letter from the proposed primary roofing manufacturer confirming that the bidder is an acceptable Contractor authorized to install the proposed system.

2. Letter from the primary roofing manufacturer stating that the proposed application will comply with the Manufacturer's requirements in order to qualify the project for the specified guarantee.

1.05 SCOPE OF WORK

A. Evaluate, repair, and prepare metal roof substrate.
B. Flash penetrations, upstands and transitions using the specified materials.
C. Reinforce joints and junctions using the specified materials.
D. Install roof membrane using the specified materials..

1.05 QUALITY ASSURANCE

A. Acceptable Contractor: Contractor shall be certified in writing by the roofing materials manufacturer to install the primary roofing products.

B. Product Quality Assurance Program: Primary roofing materials shall be manufactured under a quality management system that is monitored regularly by a third party auditor under the ISO 9001 audit process.
C. Project Acceptance: Submit a completed manufacturer's application for roof. The project must receive approval by the membrane manufacturer, through this process, prior to shipment of materials to the project site.

D. Scope of Work: The work to be performed under this specification shall include but is not limited to the following: Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an

acceptable manner, the roof membrane/flashing system installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary roofing products.

E. Local Regulations: Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.

F. Pre-installation Meeting: Prior to scheduled commencement of the material application, conduct a meeting at the project site with the installer, specifier, building owner and manufacturer's representative. The installer shall record conference discussions to include decisions, agreements, and open issues and follow-up with copies of recorded discussions provided to each attending party. The primary purpose of the meeting is to review foreseeable methods and procedures related to roofing work, including:

1. Tour the roof area to inspect and discuss conditions of the substrate, penetrations and other preparatory work to be performed.

2. Review the manufacturer's roofing system requirements and compare with actual site conditions, contract documents and submittals.

3. Review and finalize the construction schedule related to preparation, roofing work, and verify availability of materials, installer's personnel, equipment and facilities.

4. Review required inspection(s), testing, and material usage accounting procedures.

G. Inspections

1. Interim Inspection: Inform the specifier, building owner and manufacturer's representative when substrate preparation work and flashing details have been completed and the installer is ready to proceed with application of the field membrane. Allow a minimum of 2 weeks for scheduling the interim inspection. A punch list of items required for completion shall be compiled by the manufacturer's representative.

2. Post-Installation Inspection: Inform the specifier, building owner and manufacturer's representative when the total installation has been completed. Allow a minimum of 2 weeks for the final inspection to be made by the manufacturer's representative. A punch list of items required for completion will be compiled by the manufacturer's representative. Complete, sign,

and mail the punch list form to the manufacturer's headquarters. Complete, sign, and mail the punch list form to the manufacturer's headquarters.

1.06 GUARANTEE/WARRANTY

A. Roof Membrane Guarantee: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the manufacturer's [ten][fifteen][twenty]-year guarantee offering replacement material in the event of leaks that are the result of ordinary wear and tear by the elements or deterioration of materials resulting from manufacturing defects. >10, 15, or 20-year Metal Roof Coating Warranty.

1.07 PRODUCT DELIVERY STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.

B. Storage: Store closed containers in a cool, dry area away from heat/direct sunlight and in accordance with manufacturer guidelines.

C. Handling: Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Keep away from open fire, flame, or any ignition source. Refer to product specific personal protection data as found on SDS documents. Do not eat, drink, or smoke in areas where roofing/waterproofing materials are stored or applied.

D. Damaged Material: Any materials that are found to be damaged or stored in any manner other than stated above shall be automatically rejected, removed and replaced at the Contractor's expense.

1.08 PROJECT/SITE CONDITIONS

A. Requirements Prior to Job Start

1. Notification: Give a minimum of 5 days' notice to the specifier, building owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.

2. Permits: Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.

3. Safety: Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NIOSH, NRCA, CRCA and other industry or governmental groups. Ensure that workers follow applicable personal protection requirements as indicated on SDS documents.

B. Environmental Requirements

1. Precipitation: Do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied roofing, and building interiors are protected from possible moisture damage or contamination.

2. Temperature Restrictions: Do not apply materials if there is a threat of inclement weather. Follow the manufacturer's specifications for minimum and maximum ambient, material and substrate temperatures. Do not apply materials unless ambient, material and substrate temperatures fall within the manufacturer's published range. Do not expose water-based products to freezing temperatures.

C. Protection Requirements

1. Membrane Protection: Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces.

PART 2 PRODUCTS

2.01 MANUFACTURERS

a. Liquid Roof Membrane for Metal:

1) Manufacturers: Subject to compliance with requirements, provide products by one of the following:

2) Basis-of-Design Product: Subject to compliance with requirements, provide Siplast Paraflex Roof Membrane and related components as manufactured by Siplast or product that meets or exceeds Siplast by one of the following:

a) The Garland Company.

b) Tremco

2.01 ROOFING SYSTEM ACCESSORIES

A. Cleaning Agents

1. Cleaning Agent for Metal Substrates: A water-based, biodegradable cleaning agent used for cleaning metal substrates, Pro Prep CC by Siplast; Irving, TX

2. Cleaning Agent for Membrane Preparation and Cleaning Tools: A solvent-based, cleaning agent used for preparing membranes for subsequent coats of fluid-applied materials and cleaning tools, Pro Prep M by Siplast; Irving, TX

B. Elastomeric Sealant: A moisture-curing, non-slump elastomeric sealant designed for sealing voids/transitions and use as a seam treatment, Siplast PS-715 NS Elastomeric Sealant by Siplast; Irving, TX.

C. Primers

1. Primer for Metal Substrates: A single component, water-based, acrylic latex primer used as an adhesion promotor and corrosion inhibitor, Pro Primer AC by Siplast; Irving, TX.
2. Primer for Prefinished Metal Substrates: A solvent-based, rubberized primer used as an adhesion promotor for fluoropolymer coated metal panels and a corrosion inhibitor for ferrous substrates, Pro Primer SB by Siplast; Irving, TX.
3. Primer for Sound/Rusted Ferrous Substrates: A single component, moisture-cured polyurethane primer used as a rust treatment, adhesion promotor and corrosion inhibitor for metal substrates, Pro Primer LD by Siplast; Irving, TX.

D. Reinforcing Fabrics and Tapes

1. Self-Adhesive Seam Tape: A self-adhesive, polymer-backed woven polyester reinforcing fabric used as flashing reinforcement, Pro Tape by Siplast; Irving, TX.
2. Reinforcement Fabric: A stitch-bonded polyester fabric used as flashing reinforcement, Pro Fabric by Siplast; Irving, TX.
3. Reinforcement Fabric for Fasteners: Pre-cut, stitch-bonded polyester fabric used as reinforcement for flashing fasteners, Pro Fastener Caps by Siplast; Irving, TX.

2.02 ROOFING SYSTEM COMPONENTS

A. Roofing Membrane/Flashing Assembly: A fluid-applied silane terminated polymer (STP) system designed to provide water-tight protection for metal roof systems. The system consists of an unreinforced field membrane applied over reinforced flashings and seam treatments.

1. Paraflex Liquid Membrane System by Siplast; Irving, TX (Basis of Design)
2. Tremco
3. Garland

B. Flashing Assembly: A fluid-applied silane terminated polymer-based (STP) flashing membrane applied over a self-adhesive polyester fleece or used as a base coat/top coat in conjunction with polyester fabric.

1. Paraflex 531 Liquid Flashing by Siplast; Irving, TX

C. Field Membrane: A fluid-applied silane terminated polymer-based (STP) field membrane.

1. Paraflex Liquid Membrane by Siplast; Irving, TX

PART 3 EXECUTION

3.01 SUBSTRATE EXAMINATION/PREPARATION

A. General: Ensure that substrates are free from gross irregularities, loose, unsound or foreign material such as dirt, mold, algae, oil/grease, paints or repair materials that would be detrimental to adhesion of the primer and/or other fluid-applied material to the substrate. Mechanical abrasion may be required to remove stubborn debris, layers of oxidation, and/or to generate a tooth to facilitate adhesion to fluid applied materials.

B. Pressure Washing: Pressure washing of the substrate is required in all cases. Use an approved detergent if pressure washing alone will not generate the desired results. Care should be taken to avoid damaging non-metallic substrates during the pressure washing process. Monitor the pressure washing process to ensure that water is not entering the building interior and causing damage. Containment systems may be required to catch wash-off from the pressure washing process. Follow local, state, provincial and federal guidelines for catchment and disposal of such wastewater.

C. Remedial Repair/Replacement/Preparation of Substrate: Inspect and repair or replace damaged or deteriorated metal panels.

1. General
   a) Replacement panels shall match the existing in gauge and profile.
   b) Replace panels that are unsound or unable to hold a fastener without stripping.
   c) Panel surfaces shall exhibit no more than 20% rust. Treat lightly rusted panels by removing loose scale and priming using the specified primer.

2. Fasteners
    a) Tighten fasteners that are in a reusable condition.
    b) Remove fasteners where the substrate is stripped and replace with fasteners having a larger diameter shank.
3. Panel End Laps
    a) Ensure that horizontal end laps between panels are secured 6-inches on center.
4. Gaps/Holidays between Metal Components
    a) Remove existing sealants/mastics/repair materials at joints/transitions.
    b) Fill voids, gaps, and joints using a bead of the specified sealant. The use of a backer rod and sealant may be required for large voids/gaps.
5. Pitch Pans/Gum Boxes
    a) Cap pitch pans/gum boxes with sheet metal and seal joints using the specified sealant.
6. Rubber Pipe Flashings
    a) Replace deteriorated pipe boots, setting flanges in a full bed of the specified sealant and mechanically attach using stitch screws while the sealant is wet.
7. Ridge Caps
    a) Fill voids at transitions using the specified sealant. Do not block weeps.
    b) Apply a bead of the specified sealant to all sides of "Z" closures where they intersect with metal panels and the ridge cap.
8. Rakes
    a) Ensure that rakes are secured according to the metal roof system manufacturer's specifications.
    b) Fill voids, gaps, and joints using a bead of the specified sealant. The use of a backer rod and sealant may be required for large voids/gaps.
9. Seam Evaluation/Preparation - General
    a) Ensure that seams are secured according to the metal roof system manufacturer's specifications. Recrimp seams where necessary using a portable seamer.
10. Seams - Horizontal
    a) Ensure that the panels are flush and tightly mated. Ensure that panels are secured on the high side of every other corrugation at a minimum of 6 inches on center.
11. Seams - Inverted "J" Seams
    a) Ensure that the panels are flush and tightly mated. Ensure that panels are secured on the high side of every other corrugation at a minimum of 12 inches on center.

3.02 MIXING OF FLUID-APPLIED PRODUCTS

A. Preparation/Mixing Fluid-Applied Products: Prior to application, stir liquid materials for a minimum of 2 minutes using a spiral mixer or mixing paddle. To avoid aeration, do not use a spiral

mixer unless the spiral section of the mixer can be fully contained in the liquid during the mixing process.

3.03 PRIMER APPLICATION

A. Primer Application: Apply primer using a roller, brush or airless spray equipment. Specific primers or substrate conditions may require one or more methods of primer application. Ensure that ambient and substrate temperatures are within the acceptable range as published by the primer manufacturer/supplier.

Apply primers at the minimum rate specified by the primer manufacturer. Porous or textured substrates may require more than one coat of primer. If more than one coat is required, use a crosshatch technique for each coat. Make allowances for waste, including saturation of roller covers. Allow primers to dry or cure prior to application of subsequent layers of fluid-applied products.

3.04 FLASHING AND SEAM TREATMENT

A. Fabric Reinforced Flashings – General Application Requirements: Apply an even, base coat of liquid flashing membrane to the prepared substrate with a roller or brush. Embed fabric reinforcement into the wet base coat using a roller or brush to fully embed the fabric and remove trapped air. Cut the fabric around fasteners to allow it to lie flat. Overlap fabric a minimum of 2 inches. Apply an additional coat of liquid flashing membrane between layers of overlapping fabric. Apply an even top coat of liquid flashing membrane immediately following embedment of the fabric to ensure full saturation of the fabric reinforcement. Apply liquid flashing membrane to meet the mil thickness requirements listed below.

B. Flashings Incorporating Self-Adhesive Fabric Tape: Adhere the desired width of self-adhesive fabric tape to the substrate and use a roller to ensure proper adhesion and remove trapped air. It may prove necessary to cut the tape around fasteners to allow it to lie flat. Tightly butt the tape at transitions. Apply an even coat of liquid flashing membrane over the tape with a roller or brush, ensuring full saturation of the fleece. Feather the flashing liquid a minimum of 1 inch beyond the edges of the tape. Apply liquid flashing membrane to meet the mil thickness requirements listed below.

Layer	gal/sf	liter/m²	mils
Liquid Flashing Membrane (single coat – brush	0.056	2.28	90

application)			
Liquid Flashing Membrane (base coat under fabric)	0.037	1.5	60
Liquid Flashing Membrane (top coat – over fabric)	0.019	0.78	30
Liquid Flashing Membrane (total w/fabric)	0.056	2.28	90
Liquid Flashing Membrane (over self-adhesive fabric)	0.037	1.3	60

C. Flashing Application – Specific Conditions

1. Rakes: Flash rakes using the liquid flashing membrane incorporating a 12 inch wide strip of fabric reinforcement.
2. Parapet Walls/Curbs: Flash rakes using the liquid flashing membrane incorporating a 12 inch wide strip of fabric reinforcement.
3. Parapet Walls: Flash parapets using the liquid flashing membrane incorporating a 12 inch wide strip of fabric reinforcement.
4. Penetrations: Flash penetrations using the liquid flashing membrane and a 12 inch wide strip of fabric reinforcement that extends a minimum 6 inches up the vertical and 6 inches onto the horizontal. Multiple strips of fabric may be required to flash unusually shaped penetrations
5. Gutter Straps: Flash gutter straps using the liquid flashing membrane incorporating a 6 inch wide strip of fabric reinforcement.
6. Gutters: Treat joints between sections of gutter using the liquid flashing membrane incorporating a 6 inch wide strip of fabric. Alternately, treat joints between metal panels using a 2 inch strip self-adhesive reinforcement followed by an even top coat of liquid flashing membrane. Apply an additional coat of liquid flashing membrane over all interior gutter surfaces.
7. Fasteners: Flash fasteners using the liquid flashing membrane incorporating a pre-cut piece of fabric reinforcement.

D. Vertical Seam Treatment – Specific Conditions

1. Ribbed Seams/Standing Seams/Standing "T" Seams/ Inverted "J" Seams: Brush the seam using the liquid flashing membrane until the seam line is no longer visible.
2. Batten Seams: Brush both seams using the liquid flashing membrane until the seam line is no longer visible.
3. Corrugated Panels/R-Panels/U-Panels and other Panel Types Incorporating Simple Overlap Seams: Flash seams using the liquid flashing membrane incorporating a 6 inch wide strip of fabric reinforcement.

E. Horizontal Seam Treatment using Fabric Reinforcement: Flash seams using the liquid flashing membrane incorporating a 6 inch wide strip of fabric reinforcement. Feather the liquid flashing membrane to ensure that that water flows over the seam without ponding.

F. Horizontal Seam Treatment using Self-Adhesive Fabric Tape: Flash seams using a 6 inch wide strip of self-adhesive fabric tape followed by a top coat of liquid flashing membrane. Feather the liquid flashing membrane to ensure that that water flows over the seam without ponding.

G. Cinch Straps at Panel Ends: Flash the panel end lap and cinch straps using the liquid flashing membrane incorporating a 12 inch wide strip of Pro Fabric. Feather the liquid flashing membrane to ensure that water flows over the seam without ponding.

H. Ridge Caps: Flash ridge caps using the liquid flashing membrane incorporating a 6 or 12 inch wide strip of fabric reinforcement, depending upon the ridge cap dimension. Brush metal "Z" closures on all sides where they intersect with the roof panel and ridge cap using the liquid flashing membrane.

I. Preparation for Subsequent Coats of Flashing Membrane: Should work be interrupted for more than 12 hours or the surface of the cured system becomes dirty or contaminated by the elements, wipe the surface to be lapped with a new layer of liquid flashing membrane using the specified cleaner/solvent. Allow the surface to dry for a minimum 20 minutes and a maximum 60 minutes before continuing work.

3.05 FIELD MEMBRANE APPLICATION

A. Field Membrane Application – General Application Requirements: Apply an even coat of the liquid field membrane over the prepared substrate and completed flashings with a roller or by spray. Apply liquid field membrane at the rate designated in the table below. Allow sufficient cure time prior to exposing the membrane to foot traffic.

Guarantee Term	gal/sq	gal/sf	liter/m²	mils
10-year	2	0.02	0.815	31
15-year	2.5	0.025	1.02	40
20-year	3	0.03	1.23	48

B. Field Membrane Application – General Application Requirements: Allow for a minimum 24-hour cure and inspect the field membrane for flaws and areas of insufficient coverage/mil thickness. If repairs are required, prepare the existing system and apply an additional coat to meet the minimum mil thickness.

C. Preparation for Subsequent Coats of Flashing Membrane: Should work be interrupted for more than 12 hours or the surface of the cured system becomes dirty or contaminated by the elements, wipe the surface to be lapped with a new layer of liquid flashing membrane using the specified

cleaner/solvent. Allow the surface to dry for a minimum 20 minutes and a maximum 60 minutes before continuing work.

3.06 FIELD QUALITY CONTROL AND INSPECTIONS

A. Site Condition: Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.
B. Notification Of Completion: Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.
C. Issuance Of The Guarantee: Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

END OF SECTION

07920

JOINT SEALANTS

PART 44 GENERAL

1. RELATED DOCUMENTS

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

2. SUMMARY

a. This Section includes joint sealants for the [applications indicated in the Joint-Sealant Schedule at the end of Part 3.] [following applications, including those specified by reference to this Section:] [following applications:]

1) Exterior joints in the following vertical surfaces and horizontal nontraffic surfaces:

a) Construction joints in cast-in-place concrete.
b) Joints between plant-precast architectural concrete units.
c) Control and expansion joints in unit masonry.

d) Joints in dimension stone cladding.
e) Joints in glass unit masonry assemblies.
f) Joints in exterior insulation and finish systems.
g) Joints between metal panels.
h) Joints between different materials listed above.
i) Perimeter joints between materials listed above and frames of doors, windows, and, louvers.
j) Control and expansion joints in [ceilings] [and other] [overhead surfaces].
k) Other exterior joints in vertical surfaces and horizontal nontraffic surfaces.
l) Other joints as indicated.

2) Exterior joints in the following horizontal traffic surfaces:

a) Control and expansion joints in brick pavers.
b) Isolation and contraction joints in cast-in-place concrete slabs.
c) Joints between plant-precast architectural concrete paving units.
d) Joints in stone paving units, including steps.
e) Tile control and expansion joints.
f) Joints between different materials listed above.
g) Other exterior joints in horizontal traffic surfaces.
h) Other joints as indicated.

3) Interior joints in the following vertical surfaces and horizontal nontraffic surfaces:

a) Control and expansion joints on exposed interior surfaces of exterior walls.
b) Perimeter joints of exterior openings where indicated.
c) Vertical joints on exposed surfaces of ,interior unit masonry, concrete, walls, and, partitions.
d) Joints on underside of plant-precast structural concrete beams, and, planks.
e) Other joints as indicated.

4) Interior joints in the following horizontal traffic surfaces:

a) Isolation joints in cast-in-place concrete slabs.
b) Other joints as indicated.

b. Related Sections include the following:

1) Division 7 Section "Modified Bitumen Roof Membranes".
2) Division 7 Section "Fire-Resistive Joint Systems" for sealing joints in fire-resistance-rated construction.

3. PERFORMANCE REQUIREMENTS

a. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

b. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

4. SUBMITTALS

a. Product Data: For each joint-sealant product indicated.

b. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

c. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

d. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.

e. SWRI Validation Certificate: For each elastomeric sealant specified to be validated by SWRI's Sealant Validation Program.

f. Qualification Data: For Installer, and testing agency.

g. Preconstruction Field Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on preconstruction testing specified in "Quality Assurance" Article.

h. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:

1) Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2) Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

i. Field Test Report Log: For each elastomeric sealant application.

j. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.

k. Warranties: Special warranties specified in this Section.

5. QUALITY ASSURANCE

a. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.

b. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

c. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.

1) Use ASTM C 1087 manufacturer's standard test method to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
2) Submit not fewer than four pieces of each type of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
3) Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
4) For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
5) Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing of current sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

d. Product Testing: Obtain test results for "Product Test Reports" Paragraph in "Submittals" Article from a qualified testing agency based on testing current sealant formulations within a 36-month period preceding the commencement of the Work.

1) Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated, as documented according to ASTM E 548.
2) Test elastomeric joint sealants for compliance with requirements specified by reference to ASTM C 920, and where applicable, to other standard test methods.
3) Test elastomeric joint sealants according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.
4) Test other joint sealants for compliance with requirements indicated by referencing standard specifications and test methods.

e. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates as follows:

1) Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
2) Conduct field tests for each application indicated below:

a) Each type of elastomeric sealant and joint substrate indicated.
b) Each type of nonelastomeric sealant and joint substrate indicated.

3) Notify Architect seven days in advance of dates and times when test joints will be erected.
4) Arrange for tests to take place with joint-sealant manufacturer's technical representative present.

a) Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193.

1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.

5) Report whether sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
6) Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

f. Mockups: Build mockups incorporating sealant joints, as follows, to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution:

1) Joints in mockups of assemblies specified in other Sections that are indicated to receive elastomeric joint sealants, which are specified by reference to this Section.

g. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

6. PROJECT CONDITIONS

a. Do not proceed with installation of joint sealants under the following conditions:

1) When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
2) When joint substrates are wet.

3) Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4) Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

7. 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: 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: Two years from date of Substantial Completion.

c. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:

1) Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
2) Disintegration of joint substrates from natural causes exceeding design specifications.
3) Mechanical damage caused by individuals, tools, or other outside agents.
4) Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 45 PRODUCTS

1. MANUFACTURERS

a. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

b. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

2. MATERIALS, GENERAL

a. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.

b. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

3. ELASTOMERIC JOINT SEALANTS

a. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

b. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

c. Suitability for Immersion in Liquids. Where elastomeric sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247 and qualify for the length of exposure indicated by reference to ASTM C 920 for Class 1 or 2. Liquid used for testing sealants is deionized water, unless otherwise indicated.

d. Multicomponent Nonsag Polysulfide Sealant:

1) Products:

a) Pacific Polymers, Inc.; Elasto-Seal 227 Type II (Gun Grade).
b) Pecora Corporation; Synthacalk GC-2+.
c) Polymeric Systems Inc.; PSI-350.
d) PolySpec Corp.; T-2235-M.
e) PolySpec Corp.; T-2282.

f) PolySpec Corp.; Thiokol 2P.
g) Sonneborn, Division of ChemRex Inc.; Sonolastic Polysulfide Sealant.
h) Or equal

2) Type and Grade: M (multicomponent) and NS (nonsag).
3) Class: 25.
4) Use[s] Related to Exposure: [T (traffic)] [NT (nontraffic)] [T (traffic) and NT (nontraffic)].
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: [Coated glass] [color anodic aluminum] [aluminum coated with a high-performance coating] [galvanized steel] [brick] [granite] [limestone] [marble] [ceramic tile] [wood] [and] <Insert other Use O substrates>.

e. Multicomponent Nonsag Immersible Polysulfide Sealant :

1) Products:

a) Pecora Corporation; GC-2+.
b) PolySpec Corp.; T-2235-M.
c) Or equal

2) Type and Grade: M (multicomponent) and NS (nonsag).
3) Class: 25.
4) Uses Related to Exposure: T (traffic), NT (nontraffic), and I (immersible), Class 1.
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: galvanized steel,brick,andother type O substrates.

f. Multicomponent Pourable Polysulfide Sealant :

1) Products:

a) Meadows, W. R., Inc.; Deck-O-Seal.
b) Pacific Polymers, Inc.; Elastoseal 227 Type I (Pourable).
c) Or Equal

2) Type and Grade: M (multicomponent) and P (pourable).
3) Class: 25.
4) Uses Related to Exposure: T (traffic) and NT (nontraffic).

5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Brick, granite, limestone, marble, wood and other Use O substrates.

g. Single-Component Nonsag Polysulfide Sealant :

1) Products:

a) Pacific Polymers, Inc.; Elastoseal 230 Type I (Gun Grade).
b) Polymeric Systems Inc.; PSI-7000.
c) Or equal Insert manufacturer's name; product.

2) Type and Grade: S (single component) and NS (nonsag).
3) Class: 25.
4) Use Related to Exposure: NT (nontraffic).
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: [Coated glass] [color anodic aluminum] [aluminum coated with a high-performance coating] [galvanized steel] [brick] [granite] [limestone] [marble] [ceramic tile] [wood] [and] <Insert other Use O substrates>.

h. Multicomponent Nonsag Neutral-Curing Silicone Sealant [ES-<#>]:

1) [Available]Products:

a) Dow Corning Corporation; 756 H.P.
b) Or equal

2) Type and Grade: M (multicomponent) and P (pourable).
3) Class: 50.
4) Use Related to Exposure: NT (nontraffic).
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Coated glass, color anodic aluminum, aluminum coated with a high-performance coating, galvanized steel, brick, limestone, marble, granite, and other Use O substrates.

i. Multicomponent Pourable Neutral-Curing Silicone Sealant :

1) Products:

a) Dow Corning Corporation; FC Parking Structure Sealant.
b) Or equal.

2) Type and Grade: M (multicomponent) and P (pourable).
3) Class: 25.
4) Uses Related to Exposure: T (traffic) and NT (nontraffic).
5) Uses Related to Joint Substrates: M, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Galvanized steel, brick, limestone, marble, granite, and other Use O substrates.

j. Single-Component Pourable Neutral-Curing Silicone Sealant :

1) Products:

a) Dow Corning Corporation; 890-SL.
b) Pecora Corporation; 300 Pavement Sealant (Self Leveling).
c) Dow Corning Corporation; SL Parking Structure Sealant.
d) Or equal

2) Type and Grade: S (single component) and P (pourable).
3) Class: 100/50.
4) Uses Related to Exposure: NT, and, T (traffic).
5) Uses Related to Joint Substrates: M, A, and O, as applicable to joint substrates indicated.

a) Use O Joint Substrates: Galvanized steel, brick, limestone, marble, granite, and other use O substrates.

k. Single-Component Neutral- and Basic-Curing or Neutral-Curing Silicone Sealant :

1) Products:

a) Dow Corning Corporation; 790.
b) GE Silicones; SilPruf LM SCS2700.
c) Tremco; Spectrem 1 (Basic).
d) <Insert manufacturer's name; product.>
e) GE Silicones; SilPruf SCS2000.
f) Pecora Corporation; 864.
g) Pecora Corporation; 890.
h) Polymeric Systems Inc.; PSI-641.

i) Sonneborn, Division of ChemRex Inc.; Omniseal.
j) Tremco; Spectrem 3.
k) Dow Corning Corporation; 791.
l) Dow Corning Corporation; 795
m) GE Silicones; SilPruf NB SCS9000.
n) GE Silicones; UltraPruf II SCS2900.
o) Pecora Corporation; 865.
p) Pecora Corporation; 895.
q) Pecora Corporation; 898.
r) Or equal

2) Type and Grade: S (single component) and NS (nonsag).
3) Class: [50] [100/50].
4) Use Related to Exposure: NT (nontraffic).
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: color anodic aluminum, aluminum with a high-performance coating, galvanized steel, brick, granite, limestone, marble, wood, and other O substrates.

6) Stain-Test-Response Characteristics: Nonstaining to porous substrates per ASTM C 1248.

l. Single-Component Neutral-Curing Silicone Sealant :

1) [Available]Products:

a) Dow Corning Corporation; 799.
b) GE Silicones; UltraGlaze SSG4000.
c) GE Silicones; UltraGlaze SSG4000AC.
d) Polymeric Systems Inc.; PSI-631.
e) Schnee-Morehead, Inc.; SM5731 Poly-Glaze Plus.
f) Tremco; Proglaze SG.
g) Tremco; Spectrem 2.
h) Tremco; Tremsil 600.
i) Or equal.

2) Type and Grade: S (single component) and NS (nonsag).
3) Class: 25.
4) Use Related to Exposure: NT (nontraffic).

5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: color anodic aluminum, coated with a high-performance coating, galvanized steel, and other O substrates>.

m. Single-Component Acid-Curing Silicone Sealant :

1) Products:

a) Bostik Findley; Chem-Calk 1200.
b) Dow Corning Corporation; 999-A.
c) Dow Corning Corporation; Trademate Glazing.
d) GE Silicones; Construction SCS1200.
e) GE Silicones; Contractors SCS1000.
f) GE Silicones; Sanitary SCS1700.
g) Pecora Corporation; 860.
h) Polymeric Systems Inc.; PSI-601.
i) Polymeric Systems Inc.; PSI-613.
j) Schnee-Morehead, Inc.; SM5732 Polyglaze.
k) Sonneborn, Division of ChemRex Inc.; OmniPlus.
l) Tremco; Proglaze.
m) Tremco; Tremsil 200.
n) Or equal

2) Type and Grade: S (single component) and NS (nonsag).
3) Class: 25.
4) Use Related to Exposure: NT (nontraffic).
5) Uses Related to Joint Substrates: G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: color anodic aluminum, aluminum coated with a high-performance coating, galvanized steel, and other O substrates>.

n. Single-Component Mildew-Resistant Neutral-Curing Silicone Sealant :

1) [Available]Products:

a) Pecora Corporation; 898.
b) Tremco; Tremsil 600 White.
c) Or equal

2) Type and Grade: S (single component) and NS (nonsag).
3) Class: 25.
4) Use Related to Exposure: NT (nontraffic).
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: color anodic aluminum, aluminum coated with a high-performance coating, galvanized steel, and other Use O substrates.

o. Single-Component Mildew-Resistant Acid-Curing Silicone Sealant :

1) Products:

a) Dow Corning Corporation; 786 Mildew Resistant.
b) GE Silicones; Sanitary SCS1700.
c) Tremco; Tremsil 200 [White] [Clear].
d) Or equal

2) Type and Grade: S (single component) and NS (nonsag).
3) Class: 25.
4) Use Related to Exposure: NT (nontraffic).
5) Uses Related to Joint Substrates: G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: color anodic aluminum, aluminum coated with a high-performance coating, and other use O substrates.

p. Multicomponent Nonsag Urethane Sealant

1) Products:

a) Pecora Corporation; Dynatrol II.
b) Tremco; Dymeric 511.
c) Tremco; Vulkem 922.
d) Or equal

2) Type and Grade: M (multicomponent) and NS (nonsag).
3) Class: 50.
4) Uses Related to Exposure: NT (nontraffic) and T (traffic).
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: aluminum coated with a high-performance coating, galvanized steel, brick, granite, limestone, marble, wood, and other use O substrates.

q. Multicomponent Nonsag Urethane Sealant [ES-<#>]:

1) [Available]Products:

a) Schnee-Morehead, Inc.; Permathane SM 7200.
b) Sika Corporation, Inc.; Sikaflex - 2c NS TG.
c) Sonneborn, Division of ChemRex Inc.; NP 2.
d) Tremco; Vulkem 227.
e) Tremco; Vulkem 322 DS.
f) Or equal

2) Type and Grade: M (multicomponent) and NS (nonsag).
3) Class: 25.
4) Uses Related to Exposure: T (traffic) and NT (nontraffic).
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Color anodic aluminum, aluminum coated with a high-performance coating, galvanized steel, brick, granite, limestone, marble, wood, and other use O substrates.

r. Multicomponent Nonsag Urethane Sealant :

1) Products:

a) Bostik Findley; Chem-Calk 500.
b) Pacific Polymers, Inc.; Elasto-Thane 227 R Type II (Gun Grade).
c) Polymeric Systems Inc.; PSI-270.
d) Tremco; Dymeric.
e) Or Equal

2) Type and Grade: M (multicomponent) and NS (nonsag).
3) Class: 25.
4) Additional Movement Capability: 40 percent movement in extension and 25 percent in compression for a total of 65 percent movement.
5) Use Related to Exposure: NT (nontraffic).
6) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Galvanized steel, brick, granite, marble, wood, and other use O substrates.

s. Multicomponent Nonsag Urethane Sealant :

1) Products:

a) Pacific Polymers, Inc.; Elasto-Thane 227 High Shore Type II (Gun Grade).
b) Pacific Polymers, Inc.; Elasto-Thane 227 Type II (Gun Grade).
c) Pecora Corporation; Dynatred.
d) Polymeric Systems Inc.; PSI-270.
e) Or Equal

2) Type and Grade: M (multicomponent) and NS (nonsag).
3) Class: 25.
4) Use Related to Exposure: T (traffic).
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Galvanized steel, brick, granite, marble, and, other use O substrates.

t. Multicomponent Nonsag Immersible Urethane Sealant :

1) Products:

a) Pacific Polymers, Inc.; Elasto-Thane 227 R Type II (Gun Grade).
b) Pecora Corporation; Dynatred.
c) Tremco; Vulkem 227.
d) Tremco; Vulkem 322 DS.
e) Or equal

2) Type and Grade: M (multicomponent) and NS (nonsag).
3) Class: 25.
4) Uses Related to Exposure: T (traffic), NT (nontraffic), and I (immersible), Class 1 .
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Color anodic aluminum, aluminum coated with a high-performance coating, galvanized steel, brick, granite, marble, wood, and, other use O substrates.

u. Multicomponent Pourable Urethane Sealant:

1) Products:

a) Bostik Findley; Chem-Calk 550.
b) Meadows, W. R., Inc.; POURTHANE.
c) Pacific Polymers, Inc.; Elasto-Thane 227 High Shore Type I (Self Leveling).
d) Pacific Polymers, Inc.; Elasto-Thane 227 Type I (Self Leveling).
e) Pecora Corporation; Urexpan NR-200.
f) Polymeric Systems Inc.; PSI-270SL.
g) Schnee-Morehead, Inc.; Permathane SM 7201.
h) Tremco; THC-901.
i) Tremco; THC-900.
j) Tremco; Vulkem 245.
k) Pecora Corporation; Urexpan NR 300, Type H.
l) Pecora Corporation; Urexpan NR 300, Type M.
m) Or Equal

2) Type and Grade: M (multicomponent) and P (pourable).
3) Class: 25 12-1/2.

4) Use Related to Exposure: T (traffic).
5) Uses Related to Joint Substrates: M, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Color anodic aluminum, aluminum coated with a high-performance coating, galvanized steel, brick, granite, marble, wood, and other use O substrates.

v. Multicomponent Pourable Urethane Sealant:

1) Products:

a) Pecora Corporation; Dynatrol II-SG.
b) Sika Corporation, Inc.; Sikaflex - 2c SL.
c) Sonneborn, Division of ChemRex Inc.; SL 2.
d) Or Equal

2) Type and Grade: M (multicomponent) and P (pourable).
3) Class: [25] [50].
4) Uses Related to Exposure: T (traffic) and NT (nontraffic).

5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Color anodic aluminum, aluminum coated with a high-performance coating, galvanized steel, brick, granite, marble, wood, and t other use O substrates.

w. Multicomponent Pourable Immersible Urethane Sealant :

1) Products:

a) Pacific Polymers, Inc.; Elasto-Thane 227 R Type II (Self Leveling).
b) Tremco; Vulkem 245.
c) Or Equal

2) Type and Grade: M (multicomponent) and P (pourable).
3) Class: 25.
4) Uses Related to Exposure: T (traffic), NT (nontraffic), and I (immersible), Class 1, 2.
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Brick, wood, and other Use O substrates.

x. Single-Component Nonsag Urethane Sealant :

1) Products:

a) Sika Corporation, Inc.; Sikaflex - 1a.
b) Sika Corporation, Inc.; Sikaflex - 15LM.
c) Sonneborn, Division of ChemRex Inc.; Ultra.
d) Sonneborn, Division of ChemRex Inc.; NP 1.
e) Tremco; Vulkem 116.
f) Or Equal

2) Type and Grade: S (single component) and NS (nonsag).
3) Class: [25] [100/50].
4) Uses Related to Exposure: T (traffic) and NT (nontraffic).
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Color anodic aluminum, aluminum with a high-performance coating, galvanized steel, brick, granite, marble, wood, and t other use O substrates.

y. Single-Component Nonsag Urethane Sealant :

1) Products:

a) Bostik Findley; Chem-Calk 900.
b) Bostik Findley; Chem-Calk 915.
c) Bostik Findley; Chem-Calk 916 Textured.
d) Bostik Findley; Chem-Calk 2639.
e) Pecora Corporation; Dynatrol I-XL.
f) Polymeric Systems Inc.; Flexiprene 1000.
g) Polymeric Systems Inc.; PSI-901.
h) Schnee-Morehead, Inc.; Permathane SM7100.
i) Schnee-Morehead, Inc.; Permathane SM7108.
j) Schnee-Morehead, Inc.; Permathane SM7110.
k) Tremco; DyMonic.
l) Tremco; Vulkem 921.
m) Tremco; Vulkem 931.
n) Or Equal

2) Type and Grade: S (single component) and NS (nonsag).
3) Class: [25] [50] [100/50].
4) Use Related to Exposure: NT (nontraffic).
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Color anodic aluminum, aluminum with a high-performance coating, galvanized steel, brick, granite, marble, wood, and other use O substrates.

z. Multicomponent Nonsag Immersible Urethane Sealant :

1) Products:

a) Tremco; Vulkem 116.
b) Tremco; Vulkem 921.
c) Or Equal

2) Type and Grade: M (multicomponent) and P (pourable).
3) Class: [25] [50].
4) Uses Related to Exposure: T (traffic) and NT (nontraffic), NT (nontraffic) and I (immersible), Class [1] [2].
5) Uses Related to Joint Substrates: M, A, and, as applicable to joint substrates indicated, O.

    a) Use O Joint Substrates: Color anodic aluminum, aluminum with a high-performance coating, galvanized steel, brick, granite, marble, wood, andt other use O substrates.

aa. Single-Component Pourable Urethane Sealant :

1) Products:

    a) Sika Corporation, Inc.; Sikaflex - 1CSL.
    b) Sonneborn, Division of ChemRex Inc.; SL 1.
    c) Tremco; Vulkem Nova 300 SSL.
    d) Or Equal

2) Type and Grade: S (single component) and P (pourable).
3) Class: [25] [50].
4) Uses Related to Exposure: T (traffic) and NT (nontraffic).
5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

    a) Use O Joint Substrates: Galvanized steel, brick, granite, marble, wood, and other use O substrates.

bb. Single-Component Pourable Urethane Sealant :

1) Products:

    a) Bostik Findley; Chem-Calk 950.
    b) Pecora Corporation; Urexpan NR-201.
    c) Polymeric Systems Inc.; Flexiprene 952.
    d) Schnee-Morehead, Inc.; Permathane SM7101.
    e) Tremco; Tremflex S/L.
    f) Tremco; Vulkem 45.
    g) Or Equal

2) Type and Grade: S (single component) and P (pourable).

3) Class: 25.

4) Use Related to Exposure: T (traffic).

5) Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

a) Use O Joint Substrates: Color anodic aluminum, aluminum with a high-performance coating, galvanized steel, brick, granite, marble, wood, and other use O substrates.

4. SOLVENT-RELEASE JOINT SEALANTS

a. Acrylic-Based Solvent-Release Joint Sealant : Comply with ASTM C 1311 or FS TT-S-00230.

1) Products:

a) Schnee-Moorehead, Inc.; Acryl-R Acrylic Sealant.
b) Tremco; Mono 555.
c) Or Equal

b. Butyl-Rubber-Based Solvent-Release Joint Sealant : Comply with ASTM C 1085.

1) Products:

a) Bostik Findley; Bostik 300.
b) Fuller, H. B. Company; SC-0296.
c) Fuller, H. B. Company; SC-0288.
d) Pecora Corporation; BC-158.
e) Polymeric Systems Inc.; PSI-301
f) Sonneborn, Division of ChemRex Inc.; Sonneborn Multi-Purpose Sealant.
g) Tremco; Tremco Butyl Sealant.
h) Or Equal

c. Pigmented Narrow-Joint Sealant : Manufacturer's standard, solvent-release-curing, pigmented, synthetic-rubber sealant complying with AAMA 803.3 and formulated for sealing joints 3/16 inch (5 mm) or smaller in width.

1) Products:

a) Fuller, H. B. Company; SC-0289.
b) Schnee-Morehead, Inc.; SM 5504 Acryl-R Narrow Joint Sealant.
c) Or Equal

5. LATEX JOINT SEALANTS

a. Latex Sealant : Comply with ASTM C 834, Type P, Grade NF.

b. Products:

1) Bostik Findley; Chem-Calk 600.
2) Pecora Corporation; AC-20+.
3) Schnee-Morehead, Inc.; SM 8200.
4) Sonneborn, Division of ChemRex Inc.; Sonolac.
5) Tremco; Tremflex 834.
6) Or Equal

6. ACOUSTICAL JOINT SEALANTS

a. Acoustical Sealant for Exposed and Concealed Joints : Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 and the following:

1) Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
2) [Available]Products:

a) Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant.
b) United States Gypsum Co.; SHEETROCK Acoustical Sealant.
c) Or Equal

b. Acoustical Sealant for Concealed Joints : Manufacturer's standard, nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

1) Products:

a) Pecora Corporation; BA-98.
b) Tremco; Tremco Acoustical Sealant.
c) Or Equal

7. PREFORMED JOINT SEALANTS

a. Preformed Silicone-Sealant System : Manufacturer's standard system consisting of precured low-modulus silicone extrusion, in sizes to fit joint widths indicated, combined with a neutral-curing silicone sealant for bonding extrusions to substrates.

1) Products:

a) Dow Corning Corporation; 123 Silicone Seal.
b) GE Silicones; UltraSpan US1100.
c) Pecora Corporation; Sil-Span.
d) Tremco; Spectrem Ez Seal.
e) Or Equal

b. Preformed Foam Sealant : Manufacturer's standard preformed, precompressed, open-cell foam sealant that is manufactured from high-density urethane foam impregnated with a nondrying, water-repellent agent; is factory produced in precompressed sizes in roll or stick form to fit joint widths indicated; is coated on one side with a pressure-sensitive adhesive and covered with protective wrapping; develops a watertight and airtight seal when compressed to the degree specified by manufacturer; and complies with the following:

1) Products:

a) EMSEAL Joint Systems, Ltd.; Emseal 25V.
b) illbruck Sealant Systems, Inc.; Wilseal 600.
c) Polytite Manufacturing Corporation; Polytite B.
d) Polytite Manufacturing Corporation; Polytite Standard.
e) Sandell Manufacturing Co., Inc.; Polyseal.
f) Or Equal

2) Properties: Permanently elastic, mildew resistant, nonmigratory, nonstaining, and compatible with joint substrates and other joint sealants.

a) Density: [Manufacturer's standard] [5.5 to 6.5 lb/cu. ft. (90 to 110 kg/cu. m)] [10 lb/cu. ft. (160 kg/cu. m)].

8. PREFORMED TAPE SEALANTS

a. Back-Bedding Mastic Tape Sealant: Preformed, butyl-based elastomeric tape sealant with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape manufacturers for application

indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:

1) AAMA 804.3 tape, where indicated.
2) AAMA 806.3 tape, for applications in which tape is subject to continuous pressure.
3) AAMA 807.3 tape, for applications in which tape is not subject to continuous pressure.

b. Expanded Cellular Tape Sealant: Closed-cell, PVC foam tape sealant; factory coated with adhesive on both surfaces; packaged on rolls with release liner protecting adhesive; and complying with AAMA 800 for the following types:

1) Type 1, for applications in which tape acts as the primary sealant.
2) Type 2, for applications in which tape is used in combination with a full bead of liquid sealant.

9. JOINT-SEALANT BACKING

a. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

b. Cylindrical Sealant Backings: ASTM C 1330, Type [C (closed-cell material with a surface skin)] [O (open-cell material)] [B (bicellular material with a surface skin)][or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated], and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:

c. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F (minus 32 deg C). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and to otherwise contribute to optimum sealant performance.

d. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

10. MISCELLANEOUS MATERIALS

a. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

b. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

c. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 46 EXECUTION

1. EXAMINATION

a. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

b. Proceed with installation only after unsatisfactory conditions have been corrected.

2. PREPARATION

a. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1) Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2) Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

a) Concrete.

b) Masonry.

c) Other porous joint substrates.

3) Remove laitance and form-release agents from concrete.

4) Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

a) Metal.
b) Glass.
c) Porcelain enamel.
d) Other nonporous joint substrate.

b. Joint Priming: Prime joint substrates**,** where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

c. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3. INSTALLATION OF JOINT SEALANTS

a. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

b. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

c. Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.

d. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1) Do not leave gaps between ends of sealant backings.
2) Do not stretch, twist, puncture, or tear sealant backings.

3) Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

e. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

f. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1) Place sealants so they directly contact and fully wet joint substrates.
2) Completely fill recesses in each joint configuration.
3) Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

g. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1) Remove excess sealant from surfaces adjacent to joints.
2) Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3) Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
4) Provide flush joint configuration where indicated per Figure 5B in ASTM C 1193.
5) Provide recessed joint configuration of recess depth and at locations indicated per Figure 5C in ASTM C 1193.

a) Use masking tape to protect surfaces adjacent to recessed tooled joints.

h. Installation of Preformed Tapes: Install according to manufacturer's written instructions.

i. Installation of Preformed Silicone-Sealant System: Comply with the following requirements:

1) Apply masking tape to each side of joint, outside of area to be covered by sealant system.
2) Apply silicone sealant to each side of joint to produce a bead of size complying with preformed silicone-sealant system manufacturer's written instructions and covering a bonding area of not less than 3/8 inch (10 mm). Hold edge of sealant bead 1/4 inch (6 mm) inside masking tape.

3) Within 10 minutes of sealant application, press silicone extrusion into sealant to wet extrusion and substrate. Use a roller to apply consistent pressure and ensure uniform contact between sealant and both extrusion and substrate.
4) Complete installation of sealant system in horizontal joints before installing in vertical joints. Lap vertical joints over horizontal joints. At ends of joints, cut silicone extrusion with a razor knife.

j. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping, taking care not to pull or stretch material, producing seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures where expansion of sealant requires acceleration to produce seal, apply heat to sealant in compliance with sealant manufacturer's written instructions.

4. FIELD QUALITY CONTROL

a. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

1) Extent of Testing: Test completed elastomeric sealant joints as follows:

a) Perform 10 tests for the first (300 m) of joint length for each type of elastomeric sealant and joint substrate.
b) Perform 1 test for each 300 ft of joint length thereafter or 1 test per each floor per elevation.

2) Test Method: Test joint sealants according to [Method A, Field-Applied Sealant Joint Hand Pull Tab] [Method B, Exposed Surface Finish Hand Pull Tab] [Method C, Field-Applied Sealant Joint Hand Pull Flap] [or] [Method D, Water Immersion] in Appendix X1 in ASTM C 1193[, as appropriate for type of joint-sealant application indicated].

a) For joints with dissimilar substrates, verify adhesion to each substrate separately; do this by extending cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.

3) Inspect joints for complete fill, for absence of voids, and for joint configuration complying with specified requirements. Record results in a field-adhesion-test log.
4) Inspect tested joints and report on the following:

a) Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of

product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.

b) Whether sealants filled joint cavities and are free of voids.

c) Whether sealant dimensions and configurations comply with specified requirements.

5) Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.

6) Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

b. Evaluation of Field Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

5. CLEANING

a. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

6. PROTECTION

a. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

7. JOINT-SEALANT SCHEDULE

a. Joint-Sealant Application JS-[#]: Exterior vertical[and horizontal nontraffic] construction joints in cast-in-place concrete.

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Multicomponent nonsag neutral-curing silicone sealant] [Single-

component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Multicomponent nonsag immersible urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>].

2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

b. Joint-Sealant Application JS-[#]: Exterior horizontal [nontraffic] [and] [traffic] [isolation] [and] [contraction] joints in cast-in-place concrete slabs.

1) Joint Sealant: [Multicomponent pourable polysulfide sealant] [Single-component pourable neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Multicomponent pourable urethane sealant] [Multicomponent pourable immersible urethane sealant] [Single-component pourable urethane sealant] <Insert joint sealant> [ES-<#>].

2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

c. Joint-Sealant Application JS-[#]: Exterior vertical[and horizontal nontraffic] joints between plant-precast architectural concrete units.

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Single-component neutral- and basic-curing silicone sealant] [Multicomponent nonsag neutral-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>].

2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

d. Joint-Sealant Application JS-[#]: Exterior vertical control and expansion joints in unit masonry.

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Single-component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>].

2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

e. Joint-Sealant Application JS-[#]: Exterior joints in dimension stone cladding.

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Multicomponent nonsag neutral-curing silicone sealant] [Single-component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

f. Joint-Sealant Application JS-[#]: Interior and exterior sealant-pointed mortar joints in glass unit masonry assemblies.

1) Joint Sealant: [Single-component neutral-curing silicone sealant] [Single-component acid-curing silicone sealant] <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

g. Joint-Sealant Application JS-[#]: Exterior joints in exterior insulation and finish systems.

1) Joint Sealant: [Single-component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] <Insert joint sealant> [ES-<#>] [Preformed silicone-sealant system].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

h. Joint-Sealant Application JS-[#]: Exterior butt joints between metal panels.

1) Joint Sealant: [Single-component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

i. Joint-Sealant Application JS-[#]: Exterior vertical joints between[different materials listed above] <Insert materials>.

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Single-component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

j. Joint-Sealant Application JS-[#]: Exterior perimeter joints between <Insert material> and frames of [doors] [windows] [and] [louvers].

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Single-component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

k. Joint-Sealant Application JS-[#]: Exterior control and expansion joints in [ceilings] [and other] [overhead surfaces].

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Single-component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

l. Joint-Sealant Application JS-[#]: <Insert other exterior joints in vertical and horizontal nontraffic surfaces.>

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Single-component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

m. Joint-Sealant Application JS-[#]: Exterior control and expansion joints in horizontal traffic surfaces of [brick pavers] [ceramic tile] [stone paving units] <Insert material>.

1) Joint Sealant: [Multicomponent pourable polysulfide sealant] [Multicomponent nonsag urethane sealant] [Multicomponent pourable urethane sealant] [Single-component pourable urethane sealant] <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

n. Joint-Sealant Application JS-[#]: Vertical control and expansion joints on exposed interior surfaces of exterior walls.

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Single-component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>] [Latex sealant].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

o. Joint-Sealant Application JS-[#]: Interior perimeter joints of exterior openings.

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Single-component neutral- and basic-curing silicone sealant] [Single-component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>] [Latex sealant].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

p. Joint-Sealant Application JS-[#]: Interior [ceramic] [dimension stone] tile expansion, control, contraction, and isolation joints in horizontal traffic surfaces.

1) Joint Sealant: [Multicomponent pourable polysulfide sealant] [Multicomponent nonsag urethane sealant] [Multicomponent pourable urethane sealant] [Single-component pourable urethane sealant] <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

q. Joint-Sealant Application JS-[#]: Interior joints between plumbing fixtures and adjoining walls, floors, and counters.

1) Joint Sealant: Single-component mildew-resistant [neutral] [acid]-curing silicone sealant[ES-<#>].
2) Joint-Sealant Color: [White] [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

r. Joint-Sealant Application JS-[#]: Vertical joints on exposed surfaces of interior [unit masonry] [and] [concrete] [walls] [and] [partitions].

1) Joint Sealant: [Multicomponent nonsag polysulfide sealant] [Single-component nonsag polysulfide sealant] [Single-component neutral- and basic-curing silicone sealant] [Single-

component neutral-curing silicone sealant] [Multicomponent nonsag urethane sealant] [Single-component nonsag urethane sealant] <Insert joint sealant> [ES-<#>] [Latex sealant].

2) Joint-Sealant Color: [White] [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

s. Joint-Sealant Application JS-[#]: Perimeter joints between interior wall surfaces and frames of [interior doors] [windows] [and] [elevator entrances].

1) Joint Sealant: [Latex sealant] <Insert joint sealant>.
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

t. Joint-Sealant Application JS-[#]: Interior control, expansion, and isolation joints in horizontal traffic surfaces of [dimension stone] [brick] flooring [and] <Insert other interior joints in horizontal traffic surfaces>.

1) Joint Sealant: [Multicomponent pourable polysulfide sealant] [Multicomponent nonsag urethane sealant] [Multicomponent pourable urethane sealant] [Single-component pourable urethane sealant] <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

u. Joint-Sealant Application JS-[#]: <Insert other interior joints in horizontal traffic surfaces>.

1) Joint Sealant: <Insert joint sealant> [ES-<#>].
2) Joint-Sealant Color: [As selected by Architect from manufacturer's full range] <Insert color> <Insert color designation of one of the joint-sealant products named in Part 2>.

END OF SECTION

099653

PMMA ROOF COATING

PART I GENERAL

1.01 SECTION INCLUDES:

A. Preparation of existing roof system to receive elastomeric coating.

B. Application of PMMA coating to prepared roofing membrane surface.

1.02 RELATED SECTIONS

A. Section 07 52 00 – Modified Bituminous Membrane Roofing

1.03 REFERENCE STANDARDS

References in these specifications to standards, test methods and codes, are implied to mean the latest edition of each such standard adopted. The following is an abbreviated list of associations, institutions, and societies which may be used as references throughout this specification section.

ASTM	American Society for Testing and Materials Philadelphia, PA
NRCA	National Roofing Contractors Association Rosemont, IL
OSHA	Occupational Safety and Health Administration Washington, DC
UL	Underwriters Laboratories Northbrook, IL
USEPA	United States Environmental Protection Agency Washington, DC

1.04 SUBMITTALS

A. Submit product data sheets verifying physical and mechanical properties of the coating material.

B. Submit material safety data sheets for the elastomeric coating material and accessory products to be using in conjunction with the coating application.

1.05 QUALITY ASSURANCE

A. The coating shall be manufactured under a quality management system that is monitored regularly by a third party auditor under the ISO 9001 audit process.
B. Furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the coating installation in accordance with this specification. Comply with the latest written application instructions of the coating manufacturer.
C. Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver materials in original sealed containers, clearly marked with manufacturer's logo, full product name; and lot number(s).
B. Store closed containers in a well ventilated, cool, dry area away from heat, direct sunlight, oxidizing agents, strong acids, and strong alkalis. Do not store resins or catalyst at temperatures below 32°F (0°C) or above 85°F (29°C). Keep away from open fire, flame or any ignition source. Exposure of product to temperatures outside this range may affect product shelf life and quality of finished product.
C. Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Keep away from open fire, flame, or any ignition source. Vapors may form explosive mixtures with air. Avoid skin and eye contact with this material. Avoid breathing fumes when above the Threshold Limit Value (TLV). Do not eat, drink, or smoke in areas where roofing materials are stored or applied. Protect the pails of elastomeric coating from temperatures outside the range described in 1.06-B and other damage during transit, handling, storage, and installation.

1.07 PROJECT CONDITIONS

A. Do not apply materials unless surfaces to receive the coating are clean, dry and prepared as specified.
B. Install the coating in strict accordance with all published safety, weather, or applicable regulations of the manufacturer and local, state, federal agencies which have jurisdiction. Follow the coating supplier's application guidelines at all times.
D. Ensure that the membrane/flashing system to be coated is properly adhered to the substrate, free from blisters/air pockets/wrinkles and in a water-tight condition suitable to receive the coating. Repairs and remedial work shall be performed in accordance with the membrane manufacturer's specifications/details. Allow solvent-based adhesives to cure before coating application.

E. Verify that penetrations, mechanical equipment, cants, edge metal, flashings and other on-roof items are properly installed. Verify that drainage outlets are clean and in working order.

F. Verify that HVAC and air intake vents are suitably protected, closed or filtered.

G. Do not apply catalyzed resin materials if there is a threat of inclement weather or if the ambient temperature is less than 32ºF (0ºC) or greater than 95ºF (35ºC). Ensure that the substrate temperature is between 32ºF (0ºC)and 104ºF (40ºC) during coating application. Regularly utilize an infrared thermometer to monitor substrate temperatures and record both ambient and substrate temperatures during coating application on an hourly basis. Maintain a record of the temperature readings.

H. Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NIOSH, NRCA and other industry or local governmental groups. Workers shall wear a long sleeve shirt with long pants and work boots. Workers shall use butyl rubber or nitrile gloves when mixing or applying PMMA products. Safety glasses with side shields are required for eye protection. Use local exhaust ventilation to maintain worker exposure below the published Threshold Limit Value (TLV). If the airborne concentration poses a health hazard, becomes irritating or exceeds recommended limits, use a NIOSH approved respirator in accordance with OSHA Respirator Protection requirements published under 29 CFR 1910.134. The specific type of respirator will depend on the airborne concentration. A filtering face piece or dust mask is not appropriate for use with this product if TLV filtering levels have been exceeded.

1.08 WARRANTY

A. Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the manufacturer's 10-year material warranty. The warranty shall offer replacement product in the event that the coating system requires remediation as a result of the causes lised below. The warranty shall not exclude deterioration resulting from exposure to ponding water.

    1. Deterioration of the coating materials resulting from ordinary wear and tear by the elements.
    2. Deterioration of the coating materials resulting from manufacturing defects in said materials.
    3. 10-year Materials Warranty

PART II PRODUCTS

2.01 COATING SYSTEM/PRODUCTS

A. A 100% solids, peroxide cured, elastomeric coating system composed of PMMA and other polymers designed for application over qualified and prepared roof systems. The cured coating system shall be in conformance with the following:

1. Thickness (dry film avg. when applied at 1 kg/m²): 30 mils (ASTM D 5147)
2. Peak Load (min.) @ 73ºF (23ºC): 600 psi (ASTM D 412)
3. Ultimate Elongation (min.) @ 73ºF (23ºC): 250% (ASTM D 412)
4. Water Swelling (max.): 3% (ASTM D 6083)
    1. Paracoat Roof Coating by Siplast; Irving, TX
    2. Tremco
    3. Garland

2.02 RELATED/ACCESSORY MATERIALS

A. A concentrated, non-corrosive, biodegradable, water-soluble cleaner used to prepare membrane surfaces prior to elastomeric coating application.

B. A clear solvent used to clean and prepare transition areas of in-place catalyzed resin to receive subsequent coats of resin, clean tools and equipment, and remove resin residue.

PART III EXECUTION

3.01 SUBSTRATE EXAMINATION

A. Inspect the substrate to receive the coating to ensure that surfaces are clean, smooth, sound, and free of moisture, dirt, debris, or contamination. Verify that roof penetrations, mechanical equipment, cants, edge metal, and related on-roof items are properly installed, secure and in a condition suitable for coating application. Verify that air conditioning and air intake vents are suitably protected or closed.

3.02 SUBSTRATE PREPARATION

A. Protect areas surrounding the area to receive the elastomeric coating by application of masking tape.
B. Repair damaged or deteriorated areas of the existing membrane/flashing system using materials to match the existing according to the membrane manufacturer's specifications. Ensure that the roof system is in a watertight condition.
C. Clean the surface of the existing roof, ensuring that the surface is clean, sound, dry and free of any contaminating materials that would interfere with proper adhesion of the coating. This may require power-brooming, power vacuuming, manual brooming or a low-pressure wash/scrub with

detergent. If washed, rinse the substrate with copious amounts of clean water to remove residue and allow to dry before application of coating materials.

D. Use a chalk line to mark the substrate into grids to ensure that full-batch coverage can be maintained. Adjust grids if necessary.

3.03 MIXING OF RESIN PRODUCTS

A. Pour the desired quantity of resin into a clean container and using a spiral mixer or mixing paddle, stir the liquid for the time period specified by the resin manufacturer.

B. Calculate the amount of catalyst powder needed using the manufacturer's guidelines and add the pre-measured catalyst to the resin component. Mix again for the time period specified by the resin manufacturer, ensuring that the product is free from swirls and bubbles. To avoid aeration, do not use a spiral mixer unless the spiral section of the mixer can be fully contained in the liquid during the mixing process. Mix only enough product to ensure that it can be applied before pot life expires.

3.04 APPLICATION OF RESIN PRODUCTS

A. If required for the specific substrate, apply catalyzed primer resin using a roller at the rate specified by the primer manufacturer for the specific substrates. Do not let the primer pool or pond. Do not under-apply or over-apply as this may interfere with proper primer catalyzation. Make allowances for waste, including saturation of roller covers.

B. Before application of coating over cured primer or previously applied coating, wipe the surface of the cured resin using the specified cleaner/solvent and allow to dry. Treat the surface again if not followed up by coating application within 60 minutes.

C. Apply an even, generous layer of coating over the prepared roof surface using a crosshatch technique at the rate specified by the coating manufacturer.

1. Cut-in perimeter areas, penetrations and edges in a uniform manner so as to provide an aesthetically pleasing appearance.
2. Make allowances for waste, including saturation of roller covers. Dispose of roller covers regularly to avoid curing of the resin saturating the cover.
3. Avoid heavy puddles of coating and ensure that the coating is never applied at less than the minimum rate to ensure proper catalyzation/cure.
4. Monitor pot life and if insufficient to allow for full-batch application, maintain liquid resin at a lower storage temperature and work in smaller batches.
5. Monitor coverage and coating consumption based upon grid areas. Adjust grid size if consumption rates are insufficient to allow for full and even coverage.
6. Following cure, inspect the coating for thin spots and mask/prep/recoat as required.

3.05 PROTECTION/CLEANING

A. Protect surfaces not intended to receive the coating during the application of the system. Should this protection not be effective, or not be provided, the respective surfaces shall be restored to their proper conditions by cleaning, repair or replacement.

END OF SECTION 099653

Kentucky Department of Education Version of AIA® Document B101™ – 2007

Standard Form of Agreement Between Owner and Architect

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Kentucky Department of Education Version of AIA® Document B101™ – 2007

Standard Form of Agreement Between Owner and Architect

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

BETWEEN the Architect's client identified as the Owner:
(Name, legal status, address and other information)

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

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

KENTUCKY DEPARTMENT OF EDUCATION
Every Child Proficient and Prepared for SUCCESS

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

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The Owner and Architect agree as follows.

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TABLE OF ARTICLES

ARTICLE 1 INITIAL INFORMATION

§ 1.1 This Agreement is based on the Initial Information set forth in this Article 1 and in optional Exhibit A, Initial Information: (*Complete Exhibit A, Initial Information, and incorporate it into the Agreement at Section 13.2, or state below Initial Information such as details of the Project's site and program, Owner's contractors and consultants, Architect's consultants, Owner's budget for the Cost of the Work, authorized representatives, anticipated procurement method, and other information relevant to the Project.)*

§ 1.2 The Owner's anticipated dates for commencement of construction and Substantial Completion of the Work are set forth below:

.1 Commencement of construction date:

.2 Substantial Completion date:

§ 1.3 The Owner and Architect may rely on the Initial Information. Both parties, however, recognize that such information may materially change and, in that event, the Owner and the Architect shall appropriately adjust the schedule, the Architect's services and the Architect's compensation.

ARTICLE 2 ARCHITECT'S RESPONSIBILITIES

§ 2.1 The Architect shall provide the professional services as set forth in this Agreement. The Architect shall also comply with 702 KAR 4:160, pertaining to services and actions required of the Architect.

§ 2.2 The Architect shall perform its services consistent with the professional skill and care ordinarily provided by architects practicing in the same or similar locality under the same or similar circumstances. The Architect shall perform its services as expeditiously as is consistent with such professional skill and care and the orderly progress of the Project.

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§ 2.3 The Architect shall identify a representative authorized to act on behalf of the Architect with respect to the Project.

§ 2.4 Except with the Owner's knowledge and consent, the Architect shall not engage in any activity, or accept any employment, interest or contribution that would reasonably appear to compromise the Architect's professional judgment with respect to this Project.

§ 2.5 The Architect shall carry professional liability insurance in addition to insurance to protect themselves from claims under Worker's Compensation Acts, for claims for damages because of bodily injury, including death, to their employees, and for other liability normally covered by such insurance and shall furnish evidence of such insurance to the Owner.

§ 2.5.1 During the term of this Agreement, the Architect shall provide evidence of professional liability insurance coverage in the amounts stated in Subparagraph 2.5.2. In addition, the Architect agrees to attempt to maintain continuous professional liability coverage for the period of design and construction of this project, and for a period of two years following Substantial Completion, if such coverage is reasonably available at commercially affordable premiums. For the purposes of this Agreement, "reasonably available" and "commercially affordable" shall mean that more than half the architects practicing in the State are able to obtain such coverage.

§ 2.5.2 Professional liability coverage shall be provided in the following minimum amounts:

a.	Projects $1,000,000 or less	$500,000 per claim and $1,000,000 aggregate per annum.
b.	Projects exceeding $1,000,000	$1,000,000 per claim and $2,000,000 aggregate per annum.

§ 2.5.3 The Architect's Consultants shall carry professional liability coverage during the term of the Agreement as stated in Subparagraph 2.5.1, and shall furnish evidence of such insurance to the Owner. The minimum limit of liability for each of the Architect's Consultants is $250,000 aggregate, except that structural design and mechanical-electrical-plumbing consultants shall carry a minimum amount of $1,000,000 aggregate for projects $1,000,000, or less, and $2,000,000 aggregate for projects exceeding $1,000,000.

§ 2.5.4 The Architect shall carry Commercial General Liability Insurance with limits of $500,000 per occurrence and $1,000,000 aggregate. This policy shall be written or endorsed to include the following provisions:

a. The Owner shall be named as an additional insured,
b. Waiver of Subrogation,
c. Severability of Interest (Separation of Insureds), and
d. Cross Liability Endorsement.

§ 2.5.5 The Architect shall carry Worker's Compensation Insurance as required by statute, including Employers Liability, with limits of

a. $100,000 each accident,
b. $500,000 disease—policy limit, and
c. $100,000 disease—each employee.

§ 2.5.6 The Architect shall carry Automobile Liability Insurance, including coverage for hired and leased vehicles, with limits of $500,000 per occurrence, and Non-Owned Automobile Liability Insurance, including coverage for hired and leased vehicles, with limits of $500,000 per occurrence.

§ 2.5.7 The above indicated minimum coverages shall be subject to the terms, exclusions and conditions of the policies. The Architect shall provide Certificates of Insurance to the Owner upon execution of the Agreement and prior to commencement of services.

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§ 2.6 The Architect and the Architect's Consultants shall provide a notarized non-collusion affidavit on current Kentucky Department of Education form to the Owner upon execution of the Agreement and prior to commencement of services.

ARTICLE 3 SCOPE OF ARCHITECT'S BASIC SERVICES

§ 3.1 The Architect's Basic Services consist of those described in Article 3 and include usual and customary structural, mechanical, and electrical engineering services, including civil engineering, landscape, and kitchen design services required for the Project. Services not set forth in Article 3 are Additional Services.

§ 3.1.1 The Architect shall manage the Architect's services, consult with the Owner, research applicable design criteria, attend Project meetings, communicate with members of the Project team and report progress to the Owner.

§ 3.1.2 The Architect shall coordinate its services with those services provided by the Owner and the Owner's consultants. The Architect shall be entitled to rely on the accuracy and completeness of services and information furnished by the Owner and the Owner's consultants. The Architect shall provide prompt written notice to the Owner if the Architect becomes aware of any error, omission or inconsistency in such services or information.

§ 3.1.3 As soon as practicable after the date of this Agreement, the Architect shall submit for the Owner's approval a schedule for the performance of the Architect's services. The schedule initially shall include anticipated dates for the commencement of construction and for Substantial Completion of the Work as set forth in the Initial Information. The schedule shall include allowances for periods of time required for the Owner's review, for the performance of the Owner's consultants, and for approval of submissions by authorities having jurisdiction over the Project. Once approved by the Owner, time limits established by the schedule shall not, except for reasonable cause, be exceeded by the Architect or Owner. With the Owner's approval, the Architect shall adjust the schedule, if necessary, as the Project proceeds until the commencement of construction.

§ 3.1.4 The Architect shall not be responsible for an Owner's directive or substitution made without the Architect's approval.

§ 3.1.5 The Architect shall, at appropriate times, contact the governmental authorities required to approve the Construction Documents and the entities providing utility services to the Project. In designing the Project, the Architect shall respond to applicable design requirements imposed by such governmental authorities and by such entities providing utility services.

§ 3.1.6 The Architect shall assist the Owner in connection with the Owner's responsibility for filing documents required for the approval of governmental authorities having jurisdiction over the Project.

§ 3.2 Schematic Design Phase Services

§ 3.2.1 The Architect shall review the program and other information furnished by the Owner, and shall review laws, codes, and regulations applicable to the Architect's services.

§ 3.2.2 The Architect shall prepare a preliminary evaluation of the Owner's program, schedule, budget for the Cost of the Work, Project site, and the proposed procurement or delivery method and other Initial Information, each in terms of the other, to ascertain the requirements of the Project. The Architect shall notify the Owner of (1) any inconsistencies discovered in the information, and (2) other information or consulting services that may be reasonably needed for the Project.

§ 3.2.3 The Architect shall present its preliminary evaluation to the Owner and shall discuss with the Owner alternative approaches to design and construction of the Project, including the feasibility of incorporating environmentally responsible design approaches. The Architect shall reach an understanding with the Owner regarding the requirements of the Project.

§ 3.2.4 Based on the Project's requirements agreed upon with the Owner, the Architect shall prepare and present for the Owner's approval a preliminary design illustrating the scale and relationship of the Project components.

§ 3.2.5 Based on the Owner's approval of the preliminary design, the Architect shall prepare Schematic Design Documents for the Owner's approval. The Schematic Design Documents shall consist of drawings and other documents including a site plan, if appropriate, and preliminary building plans, sections and elevations; and may include some combination of study models, perspective sketches, or digital modeling. Preliminary selections of major building systems and construction materials shall be noted on the drawings or described in writing. For school Projects on new

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sites, the Architect shall provide a campus master plan with the Schematic Design Documents.

§ 3.2.5.1 The Architect shall consider environmentally responsible design alternatives, such as material choices and building orientation, together with other considerations based on program and aesthetics, in developing a design that is consistent with the Owner's program, schedule and budget for the Cost of the Work. The Owner may obtain other environmentally responsible design services under Article 4.

§ 3.2.5.2 The Architect shall consider the value of alternative materials, building systems and equipment, together with other considerations based on program and aesthetics, in developing a design for the Project that is consistent with the Owner's program, schedule and budget for the Cost of the Work. The Architect shall revise the scope of Work to be within the approved BG-1 estimate of Construction Cost, or advise the Owner to submit to the Kentucky Department of Education a revised BG-1 financial page requesting approval of additional financial support.

§ 3.2.6 The Architect shall submit to the Owner an estimate of the Cost of the Work prepared in accordance with Section 6.3.

§ 3.2.7 The Architect shall submit the Schematic Design Documents to the Owner, and request the Owner's approval.

§ 3.3 Design Development Phase Services

§ 3.3.1 Based on the Owner's approval of the Schematic Design Documents, and on the Owner's authorization of any adjustments in the Project requirements and the budget for the Cost of the Work, the Architect shall prepare Design Development Documents for the Owner's approval. The Design Development Documents shall illustrate and describe the development of the approved Schematic Design Documents and shall consist of drawings and other documents including plans, sections, elevations, typical construction details, and diagrammatic layouts of building systems to fix and describe the size and character of the Project as to architectural, structural, mechanical and electrical systems, and such other elements as may be appropriate. The Design Development Documents shall also include outline specifications that identify major materials and systems and establish in general their quality levels.

§ 3.3.2 The Architect shall advise the Owner of any adjustments to the preliminary estimate of Construction Cost, and of any conflict with the budget established by the BG-1.

§ 3.3.3 The Architect shall submit the Design Development Documents to the Owner, advise the Owner of any adjustments to the estimate of the Cost of the Work, and request the Owner's approval.

§ 3.4 Construction Documents Phase Services

§ 3.4.1 Based on the Owner's approval of the Design Development Documents, and on the Owner's authorization of any adjustments in the Project requirements and the budget for the Cost of the Work, the Architect shall prepare Construction Documents for the Owner's approval. The Construction Documents shall illustrate and describe the further development of the approved Design Development Documents and shall consist of Drawings and Specifications setting forth in detail the quality levels of materials and systems and other requirements for the construction of the Work. The Owner and Architect acknowledge that in order to construct the Work the Contractor will provide additional information, including Shop Drawings, Product Data, Samples and other similar submittals, which the Architect shall review in accordance with Section 3.6.4.

§ 3.4.2 The Architect shall incorporate into the Construction Documents the design requirements of governmental authorities having jurisdiction over the Project.

§ 3.4.3 During the development of the Construction Documents, the Architect shall assist the Owner in the development and preparation of (1) bidding and procurement information that describes the time, place and conditions of bidding, including bidding or proposal forms; (2) the form of agreement between the Owner and Contractor; and (3) the Conditions of the Contract for Construction (General, Supplementary and other Conditions). The Architect shall also compile a project manual that includes the Conditions of the Contract for Construction and Specifications and may include bidding requirements and sample forms.

§ 3.4.4 The Architect shall update the estimate for the Cost of the Work. The Architect shall advise the Owner of any conflict with the budget established by the BG-1.

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§ 3.4.5 The Architect shall submit the Construction Documents to the Owner, advise the Owner of any adjustments to the estimate of the Cost of the Work, take any action required under Section 6.5, and request the Owner's approval. The Architect shall prepare the appropriate application forms and submit them with the required Construction Documents to the applicable governmental authorities.

§ 3.5 Bidding or Negotiation Phase Services

§ 3.5.1 General

The Architect shall assist the Owner in establishing a list of prospective contractors. Following the Owner's and the Kentucky Department of Education's approval of the Construction Documents, the Architect shall assist the Owner in (1) obtaining either competitive bids or negotiated proposals; (2) confirming responsiveness of bids or proposals; (3) determining the successful bid or proposal, if any; and, (4) awarding and preparing contracts for construction. The Architect shall prepare the Advertisement for Bids and give it to the Owner for placement in the newspaper having the largest local circulation.

§ 3.5.2 Competitive Bidding

§ 3.5.2.1 Bidding Documents shall consist of bidding requirements and proposed Contract Documents.

§ 3.5.2.2 The Architect shall assist the Owner in bidding the Project by

.1 procuring the reproduction of Bidding Documents for distribution to prospective bidders;

.2 distributing the Bidding Documents to prospective bidders, requesting their return upon completion of the bidding process, and maintaining a log of distribution and retrieval and of the amounts of deposits, if any, received from and returned to prospective bidders;

.3 organizing and conducting a pre-bid conference for prospective bidders;

.4 preparing responses to questions from prospective bidders and providing clarifications and interpretations of the Bidding Documents to all prospective bidders in the form of addenda;

.5 organizing and conducting the opening of the bids, and subsequently documenting and distributing the bidding results, as directed by the Owner; and

.6 providing a written evaluation of bids received and recommendations regarding an award of Contract for Construction.

§ 3.5.2.3 The Architect shall consider requests for substitutions, if the Bidding Documents permit substitutions, and shall prepare and distribute addenda identifying approved substitutions to all prospective bidders.

§ 3.5.3 Negotiated Proposals

§ 3.5.3.1 Proposal Documents shall consist of proposal requirements and proposed Contract Documents. Negotiated proposal procedures may only be utilized for emergency construction, for construction estimated to cost no more than $20,000, or, for those Owners who have adopted the Kentucky Model Procurement Code, under the terms and conditions of KRS 45A.370, KRS 45A.375, KRS 45A.380, and KRS 45A.385.

§ 3.5.3.2 The Architect shall assist the Owner in obtaining proposals by

.1 procuring the reproduction of Proposal Documents for distribution to prospective contractors, and requesting their return upon completion of the negotiation process;

.2 organizing and participating in selection interviews with prospective contractors; and

.3 participating in negotiations with prospective contractors, and subsequently preparing a summary report of the negotiation results, as directed by the Owner.

§ 3.5.3.3 The Architect shall consider requests for substitutions, if the Proposal Documents permit substitutions, and shall prepare and distribute addenda identifying approved substitutions to all prospective contractors.

§ 3.6 Construction Phase Services

§ 3.6.1 General

§ 3.6.1.1 The Architect shall provide administration of the Contract between the Owner and the Contractor as set forth below and in AIA Document A201™–2007, General Conditions of the Contract for Construction — KDE Version. If the Owner and Contractor modify AIA Document A201–2007 — KDE Version, those modifications shall not affect the Architect's services under this Agreement unless the Owner and the Architect amend this Agreement.

§ 3.6.1.2 The Architect shall advise and consult with the Owner during the Construction Phase Services. The Architect shall have authority to act on behalf of the Owner only to the extent provided in this Agreement. The Architect shall not

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have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, nor shall the Architect be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect shall be responsible for the Architect's negligent acts or omissions, but shall not have control over or charge of, and shall not be responsible for, acts or omissions of the Contractor or of any other persons or entities performing portions of the Work.

§ 3.6.1.3 Subject to Section 4.3, the Architect's responsibility to provide Construction Phase Services commences with the award of the Contract for Construction and terminates on the date the Architect issues the final Certificate for Payment, except for the Architect's obligation to conduct an inspection of Work and report prior to the expiration of one year from the date of Substantial Completion per Section 3.6.6.5.

§ 3.6.2 Evaluations of the Work

§ 3.6.2.1 The Architect shall visit the site at intervals appropriate to the stage of construction, or as otherwise required in Section 4.3.3, 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 shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect shall 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 shall keep the Owner informed of the progress and quality of the Work by a written report each month until time of Substantial Completion.

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

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

§ 3.6.2.4 Interpretations and decisions of the Architect shall be consistent with the intent of and reasonably inferable from the Contract Documents and shall be in writing or in the form of drawings. When making such interpretations and decisions, the Architect shall endeavor to secure faithful performance by both Owner and Contractor, shall not show partiality to either, and shall not be liable for results of interpretations or decisions rendered in good faith. The Architect's decisions on matters relating to aesthetic effect shall be final if consistent with the intent expressed in the Contract Documents.

§ 3.6.2.5 Unless the Owner and Contractor designate another person to serve as an Initial Decision Maker, as that term is defined in AIA Document A201–2007 — KDE Version, the Architect shall render initial decisions on Claims between the Owner and Contractor as provided in the Contract Documents.

§ 3.6.3 Certificates for Payment to Contractor

§ 3.6.3.1 The Architect shall review and certify the amounts due the Contractor and shall issue certificates in such amounts. The Architect's certification for payment shall constitute a representation to the Owner, based on the Architect's evaluation of the Work as provided in Section 3.6.2 and on the data comprising the Contractor's 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 (1) to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, (2) to results of subsequent tests and inspections, (3) to correction of minor deviations from the Contract Documents prior to completion, and (4) to specific qualifications expressed by the Architect.

§ 3.6.3.2 The issuance of a Certificate for Payment shall not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction

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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) ascertained how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 3.6.3.3 The Architect shall maintain a record of the Applications and Certificates for Payment.

§ 3.6.4 Submittals

§ 3.6.4.1 The Architect shall review the Contractor's submittal schedule and shall not unreasonably delay or withhold approval. The Architect's action in reviewing submittals shall be taken in accordance with the approved submittal schedule or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review.

§ 3.6.4.2 In accordance with the Architect-approved submittal schedule, the Architect shall review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of such submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities, and installation or performance of equipment or systems, which are the Contractor's responsibility. 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.

§ 3.6.4.3 If the Contract Documents specifically require the Contractor to provide professional design services or certifications by a design professional related to systems, materials or equipment, the Architect shall specify the appropriate performance and design criteria that such services must satisfy. The Architect shall review Shop Drawings and other submittals related to the Work designed or certified by the design professional retained by the Contractor that bear such professional's seal and signature when submitted to the Architect. 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.

§ 3.6.4.4 Subject to the provisions of Section 4.3, the Architect shall review and respond to requests for information about the Contract Documents. The Architect shall set forth in the Contract Documents the requirements for requests for information. Requests for information shall include, at a minimum, a detailed written statement that indicates the specific Drawings or Specifications in need of clarification and the nature of the clarification requested. The Architect's response to such requests shall be made in writing within any time limits agreed upon, or otherwise with reasonable promptness. If appropriate, the Architect shall prepare and issue supplemental Drawings and Specifications in response to requests for information.

§ 3.6.4.5 The Architect shall maintain a record of submittals and copies of submittals supplied by the Contractor in accordance with the requirements of the Contract Documents.

§ 3.6.5 Changes in the Work

§ 3.6.5.1 The Architect may authorize minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. Subject to the provisions of Section 4.3, the Architect shall prepare Change Orders and Construction Change Directives for the Owner's approval and execution in accordance with the Contract Documents.

§ 3.6.5.2 The Architect shall maintain records relative to changes in the Work.

§ 3.6.6 Project Completion

§ 3.6.6.1 The Architect shall conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion; receive from the Contractor and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract Documents and assembled by the Contractor; and issue a final Certificate for Payment based upon a final inspection indicating the Work complies with the requirements of the Contract Documents.

§ 3.6.6.2 The Architect's inspections shall be conducted with the Owner to check conformance of the Work with the requirements of the Contract Documents and to verify the accuracy and completeness of the list submitted by the Contractor of Work to be completed or corrected.

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§ 3.6.6.3 When the Work is found to be substantially complete, the Architect shall inform the Owner about the balance of the Contract Sum remaining to be paid the Contractor, including the amount to be retained from the Contract Sum, if any, for final completion or correction of the Work.

§ 3.6.6.4 The Architect shall forward to the Owner the following information received from the Contractor: (1) consent of surety or sureties, if any, to reduction in or partial release of retainage or the making of final payment; (2) affidavits, receipts, releases and waivers of liens or bonds indemnifying the Owner against liens; and (3) any other documentation required of the Contractor under the Contract Documents.

§ 3.6.6.5 Prior to the expiration of one year from the date of Substantial Completion, the Architect shall, without additional compensation, conduct an inspection with the Owner to review the facility operations and performance, and record any nonconforming Work, and shall submit a written report of nonconforming Work to the Contractor, Owner and the Kentucky Department of Education. At the discretion of the Owner and for Reimbursable Expenses, the Architect may be the Owner's agent during the one-year period after Substantial Completion.

§ 3.6.6.6 As a record of the Work as constructed, the Architect shall prepare and deliver to the Owner a set of drawings showing significant changes in the Work during construction, based upon the drawings maintained by the Contractor at the site during construction, other data furnished by the Contractor to the Architect, Addenda, Construction Change Directives and Change Orders.

ARTICLE 4 ADDITIONAL SERVICES

§ 4.1 Additional Services listed below are not included in Basic Services but may be required for the Project. The services described under this Article shall only be provided if authorized and confirmed in writing by the Owner and accompanied by a written Board of Education Order. The Architect shall provide the listed Additional Services only if specifically designated in the table below as the Architect's responsibility, and the Owner shall compensate the Architect as provided in Section 11.2.

(Designate the Additional Services the Architect shall provide in the second column of the table below. In the third column indicate whether the service description is located in Section 4.2 or in an attached exhibit. If in an exhibit, identify the exhibit.)

Additional Services		Responsibility *(Architect, Owner or Not Provided)*	Location of Service Description *(Section 4.2 below or in an exhibit attached to this document and identified below)*
§ 4.1.1	Programming (B202™–2009)		
§ 4.1.2	Multiple preliminary designs		
§ 4.1.3	Measured drawings		
§ 4.1.4	Existing facilities surveys		
§ 4.1.5	(Not Used)		
§ 4.1.6	Building information modeling		
§ 4.1.7	(Not Used)		
§ 4.1.8	(Not Used)		
§ 4.1.9	Architectural Interior Design (B252™–2007)		
§ 4.1.10	Value Analysis (B204™–2007)		
§ 4.1.11	Detailed cost estimating		
§ 4.1.12	On-site project representation (B207™–2008)		
§ 4.1.13	Conformed construction documents		
§ 4.1.14	As-designed Record Drawings		
§ 4.1.15	(Not Used)		
§ 4.1.16	Post occupancy evaluation		
§ 4.1.17	Facility Support Services (B210™–2007)		
§ 4.1.18	Tenant-related services		

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Additional Services		Responsibility *(Architect, Owner or Not Provided)*	Location of Service Description *(Section 4.2 below or in an exhibit attached to this document and identified below)*
§ 4.1.19	Coordination of Owner's consultants		
§ 4.1.20	(Not Used)		
§ 4.1.21	Security Evaluation and Planning (B206™–2007)		
§ 4.1.22	Commissioning (B211™–2007)		
§ 4.1.23	Extensive environmentally responsible design		
§ 4.1.24	LEED® Certification (B214™–2012)		
§ 4.1.25	Fast-track design services		
§ 4.1.26	Historic Preservation (B205™–2007)		
§ 4.1.27	Furniture, Furnishings, and Equipment Design (B253™–2007)		

§ 4.2 Insert a description of each Additional Service designated in Section 4.1 as the Architect's responsibility, if not further described in an exhibit attached to this document.

§ 4.3 Additional Services may be provided after execution of this Agreement, without invalidating the Agreement. Except for services required due to the fault of the Architect, any Additional Services provided in accordance with this Section 4.3 shall entitle the Architect to compensation pursuant to Section 11.3 and an appropriate adjustment in the Architect's schedule.

§ 4.3.1 Upon recognizing the need to perform the following Additional Services, the Architect shall notify the Owner with reasonable promptness and explain the facts and circumstances giving rise to the need. The Architect shall not proceed to provide the following services until the Architect receives the Owner's written authorization:

.1 Services necessitated by a change in the Initial Information, previous instructions or approvals given by the Owner, or a material change in the Project including, but not limited to, size, quality, complexity, the Owner's schedule or budget for Cost of the Work, or procurement or delivery method;

.2 Services necessitated by the Owner's request for extensive environmentally responsible design alternatives, such as unique system designs, in-depth material research, energy modeling, or LEED® certification;

.3 Changing or editing previously prepared Instruments of Service necessitated by the enactment or revision of codes, laws or regulations or official interpretations;

.4 Services necessitated by decisions of the Owner not rendered in a timely manner or any other failure of performance on the part of the Owner or the Owner's consultants or contractors;

.5 Preparing digital data for transmission to the Owner's consultants and contractors, or to other Owner authorized recipients;

.6 Preparation of design and documentation for alternate bid or proposal requests proposed by the Owner;

.7 Preparation for, and attendance at, a public presentation, meeting or hearing;

.8 Preparation for, and attendance at a dispute resolution proceeding or legal proceeding, except where the Architect is party thereto;

.9 Evaluation of the qualifications of bidders or persons providing proposals;

.10 Consultation concerning replacement of Work resulting from fire or other cause during construction; or

.11 Assistance to the Initial Decision Maker, if other than the Architect.

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§ 4.3.2 To avoid delay in the Construction Phase, the Architect shall provide the following Additional Services, notify the Owner with reasonable promptness, and explain the facts and circumstances giving rise to the need. If the Owner subsequently determines that all or parts of those services are not required, the Owner shall give prompt written notice to the Architect, and the Owner shall have no further obligation to compensate the Architect for those services:

.1 Reviewing a Contractor's submittal out of sequence from the submittal schedule agreed to by the Architect;

.2 Responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where such information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation;

.3 Preparing Change Orders and Construction Change Directives that require evaluation of Contractor's proposals and supporting data, or the preparation or revision of Instruments of Service;

.4 Evaluating an extensive number of Claims as the Initial Decision Maker;

.5 Evaluating substitutions proposed by the Owner or Contractor and making subsequent revisions to Instruments of Service resulting therefrom; or

.6 To the extent the Architect's Basic Services are affected, providing Construction Phase Services 60 days after (1) the date of Substantial Completion of the Work or (2) the anticipated date of Substantial Completion identified in Initial Information, whichever is earlier.

§ 4.3.3 The Architect shall provide Construction Phase Services exceeding the limits set forth below as Additional Services. When the limits below are reached, the Architect shall notify the Owner:

.1 ( ) reviews of each Shop Drawing, Product Data item, sample and similar submittal of the Contractor

.2 ( ) visits to the site by the Architect over the duration of the Project during construction

.3 ( ) inspections for any portion of the Work to determine whether such portion of the Work is substantially complete in accordance with the requirements of the Contract Documents

.4 ( ) inspections for any portion of the Work to determine final completion

§ 4.3.4 If the services covered by this Agreement have not been completed within ( ) months of the date of this Agreement, through no fault of the Architect, extension of the Architect's services beyond that time shall be compensated as Additional Services.

ARTICLE 5 OWNER'S RESPONSIBILITIES

§ 5.1 The Owner shall provide full information regarding requirements for the Project, including Educational Specifications, interior and exterior space requirements and relationships, flexibility and expandability, special equipment and systems, site requirements, and the Owner's objectives, schedule and constraints. Within 15 days after receipt of a written request from the Architect, the Owner shall furnish the requested information as necessary and relevant for the Architect to evaluate, give notice of or enforce lien rights.

§ 5.2 The Owner shall establish and periodically update an overall budget for the Project based on consultation with the Architect and the Owner's Fiscal Agent, as applicable, which shall include the Construction Cost, the Owner's other related costs and fees, and reasonable contingencies related to all of these costs. If the Owner significantly increases or decreases the Owner's budget for the Cost of the Work, the Owner shall notify the Architect. The Owner and the Architect shall thereafter agree to a corresponding change in the Project's scope and quality.

§ 5.3 The Owner shall identify a representative authorized to act on the Owner's behalf with respect to the Project. The Owner, through Board of Education Order, shall examine and take action in a timely manner regarding approval of documents submitted by the Architect in order to avoid unreasonable delay in the orderly and sequential progress of the Architect's services.

§ 5.4 The Owner shall furnish surveys to describe physical characteristics, legal limitations and utility locations for the site of the Project, and a written legal description of the site. The surveys and legal information shall include, as applicable, grades and lines of streets, alleys, pavements and adjoining property and structures; designated wetlands and flood plain limits as applicable; adjacent drainage; rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, boundaries and contours of the site; locations, dimensions and necessary data with respect to existing buildings, other improvements and trees; and information concerning available utility services and lines, both public and private, above and below grade, including inverts and depths. All the information on the survey shall be referenced to a Project benchmark.

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§ 5.5 The Owner shall furnish the services of geotechnical engineers when such services are deemed necessary and requested by the Architect.

§ 5.6 The Owner shall coordinate the services of its own consultants with those services provided by the Architect. Upon the Architect's request, the Owner shall furnish copies of the scope of services in the contracts between the Owner and the Owner's consultants. The Owner shall furnish the services of consultants other than those designated in this Agreement, or authorize the Architect to furnish them as an Additional Service, when the Architect requests such services and demonstrates that they are reasonably required by the scope of the Project. The Owner shall require that its consultants maintain professional liability insurance as appropriate to the services provided.

§ 5.7 The Owner shall furnish tests, inspections and reports required by law, government agencies, or the Contract Documents.

§ 5.8 The Owner shall furnish all legal, insurance and accounting services, including auditing services, that may be reasonably necessary at any time for the Project.

§ 5.9 The Owner shall provide prompt written notice to the Architect if the Owner becomes aware of any fault or defect in the Project, including errors, omissions or inconsistencies in the Architect's Instruments of Service.

§ 5.10 Except as otherwise provided in this Agreement, or when direct communications have been specially authorized, the Owner shall endeavor to communicate with the Contractor and the Architect's consultants through the Architect about matters arising out of or relating to the Contract Documents. The Owner shall promptly notify the Architect of any direct communications that may affect the Architect's services.

§ 5.11 Before executing the Contract for Construction, the Owner shall coordinate the Architect's duties and responsibilities set forth in the Contract for Construction with the Architect's services set forth in this Agreement. The Owner shall provide the Architect a copy of the executed agreement between the Owner and Contractor, including the General Conditions of the Contract for Construction.

§ 5.12 The Owner shall provide the Architect access to the Project site prior to commencement of the Work and shall obligate the Contractor to provide the Architect access to the Work wherever it is in preparation or progress.

ARTICLE 6 COST OF THE WORK

§ 6.1 The Cost of the Work shall be the total construction cost, or to the extent the Project is not completed, the estimated total construction cost recorded on the current BG-1 form to the Owner to construct all elements of the Project designed or specified by the Architect and shall include contractors' general conditions costs, overhead and profit. The Cost of the Work does not include the compensation of the Architect, the costs of the land, rights-of-way, financing, contingencies for changes in the Work or other costs that are the responsibility of the Owner.

§ 6.2 The Owner's budget for the Cost of the Work is provided in Initial Information, and may be adjusted throughout the Project as required under Sections 5.2, 6.4 and 6.5. Evaluations of the Owner's budget for the Cost of the Work, the preliminary estimate of the Cost of the Work and updated estimates of the Cost of the Work prepared by the Architect, represent the Architect's judgment as a design professional. It is recognized, however, that neither the Architect nor the Owner has control over the cost of labor, materials or equipment; the Contractor's methods of determining bid prices; or competitive bidding, market or negotiating conditions. Accordingly, the Architect cannot and does not warrant or represent that bids or negotiated prices will not vary from the Owner's budget for the Cost of the Work or from any estimate of the Cost of the Work or evaluation prepared or agreed to by the Architect.

§ 6.3 In preparing estimates of the Cost of Work, the Architect shall be permitted to include contingencies for design, bidding and price escalation; to determine what materials, equipment, component systems and types of construction are to be included in the Contract Documents; to make reasonable adjustments in the program and scope of the Project; and to include in the Contract Documents alternate bids as may be necessary to adjust the estimated Cost of the Work to meet the Owner's budget for the Cost of the Work. The Architect's estimate of the Cost of the Work shall be based on current area, volume or similar conceptual estimating techniques. If the Owner requests detailed cost estimating services, the Architect shall provide such services as an Additional Service under Article 4.

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§ 6.4 If the Bidding or Negotiation Phase has not commenced within 90 days after the Architect submits the Construction Documents to the Owner, through no fault of the Architect, the Owner's budget for the Cost of the Work shall be adjusted to reflect changes in the general level of prices in the applicable construction market.

§ 6.5 If at any time the Architect's estimate of the Cost of the Work exceeds the Owner's budget for the Cost of the Work, the Architect shall make appropriate recommendations to the Owner to adjust the Project's size, quality or budget for the Cost of the Work, and the Owner shall cooperate with the Architect in making such adjustments.

§ 6.6 If the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services is exceeded by the lowest bona fide bid or negotiated proposal, the Owner shall

.1 give written approval of an increase in the budget for the Cost of the Work;
.2 authorize rebidding or renegotiating of the Project within a reasonable time;
.3 terminate in accordance with Section 9.5;
.4 in consultation with the Architect, revise the Project program, scope, or quality as required to reduce the Cost of the Work; or
.5 implement any other mutually acceptable alternative.

§ 6.7 If the Owner chooses to proceed under Section 6.6.4, the Architect, without additional compensation, shall modify the Construction Documents as necessary to comply with the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services, or the budget as adjusted under Section 6.6.1. The Architect's modification of the Construction Documents shall be the limit of the Architect's responsibility under this Article 6.

ARTICLE 7 COPYRIGHTS AND LICENSES

§ 7.1 The Architect and the Owner warrant that in transmitting Instruments of Service, or any other information, the transmitting party is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use on the Project. If the Owner and Architect 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.

§ 7.2 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 shall retain all common law, statutory and other reserved rights, including copyrights. Submission or distribution of Instruments of Service to meet official regulatory requirements or for similar purposes in connection with the Project is not to be construed as publication in derogation of the reserved rights of the Architect and the Architect's consultants.

§ 7.3 Upon execution of this Agreement, the Architect grants to the Owner a nonexclusive license to use the Architect's Instruments of Service solely and exclusively for purposes of constructing, using, maintaining, altering and adding to the Project, provided that the Owner substantially performs its obligations, including prompt payment of all sums when due, under this Agreement. The Architect shall obtain similar nonexclusive licenses from the Architect's consultants consistent with this Agreement. The license granted under this section permits the Owner to authorize the Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers, as well as the Owner's consultants and separate contractors, to reproduce applicable portions of the Instruments of Service solely and exclusively for use in performing services or construction for the Project. If the Architect rightfully terminates this Agreement for cause as provided in Section 9.4, the license granted in this Section 7.3 shall terminate.

§ 7.3.1 In the event the Owner uses the Instruments of Service without retaining the author of the Instruments of Service, the Owner releases the Architect and Architect's consultant(s) from all claims and causes of action arising from such uses. The Owner, to the extent permitted by law, further agrees to indemnify and hold harmless the Architect and its consultants from all costs and expenses, including the cost of defense, related to claims and causes of action asserted by any third person or entity to the extent such costs and expenses arise from the Owner's use of the Instruments of Service under this Section 7.3.1. The terms of this Section 7.3.1 shall not apply if the Owner rightfully terminates this Agreement for cause under Section 9.4.

§ 7.4 Except for the licenses granted in this Article 7, no other license or right shall be deemed granted or implied under this Agreement. The Owner shall not assign, delegate, sublicense, pledge or otherwise transfer any license granted herein to another party without the prior written agreement of the Architect. Any unauthorized use of the Instruments of Service shall be at the Owner's sole risk and without liability to the Architect and the Architect's consultants.

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ARTICLE 8 CLAIMS AND DISPUTES

§ 8.1 General

§ 8.1.1 The Owner and Architect shall commence all claims and causes of action, whether in contract, tort, or otherwise, against the other arising out of or related to this Agreement in accordance with the requirements of the method of binding dispute resolution selected in this Agreement within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Architect waive all claims and causes of action not commenced in accordance with this Section 8.1.1.

§ 8.1.2 To the extent damages are covered by property insurance, the Owner and Architect waive all rights against each other and against the contractors, consultants, agents and employees of the other for damages, except such rights as they may have to the proceeds of such insurance as set forth in AIA Document A201–2007, General Conditions of the Contract for Construction — KDE Version. The Owner or the Architect, as appropriate, shall require of the contractors, consultants, agents and employees of any of them similar waivers in favor of the other parties enumerated herein.

§ 8.1.3 The Architect and Owner waive consequential damages for claims, disputes or other matters in question arising out of or relating to this Agreement. This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination of this Agreement, except as specifically provided in Section 9.7.

§ 8.2 Mediation

§ 8.2.1 Any claim, dispute or other matter in question arising out of or related to this Agreement shall be subject to mediation as a condition precedent to binding dispute resolution. If such matter relates to or is the subject of a lien arising out of the Architect's services, the Architect may proceed in accordance with applicable law to comply with the lien notice or filing deadlines prior to resolution of the matter by mediation or by binding dispute resolution.

§ 8.2.2 The Owner and Architect shall endeavor to resolve claims, disputes and other matters in question between them by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of a complaint or other appropriate demand for binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration proceeding is stayed pursuant to this section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 8.2.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 8.2.4 If the parties do not resolve a dispute through mediation pursuant to this Section 8.2, the method of binding dispute resolution shall be the following:
(Check the appropriate box. If the Owner and Architect do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, the dispute will be resolved in a court of competent jurisdiction.)

☐ Arbitration pursuant to Section 8.3 of this Agreement

☐ Litigation in a court of competent jurisdiction where the Project is located

☐ Other: *(Specify)*

§ 8.3 Arbitration

§ 8.3.1 If the parties have selected arbitration as the method for binding dispute resolution in this Agreement, any claim, dispute or other matter in question arising out of or related to this Agreement subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of this

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Agreement. A demand for arbitration shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the arbitration.

§ 8.3.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the claim, dispute or other matter in question 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, dispute or other matter in question.

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

§ 8.3.3 The award rendered by the arbitrator(s) shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 8.3.4 Consolidation or Joinder

§ 8.3.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation; (2) the arbitrations to be consolidated substantially involve common questions of law or fact; and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 8.3.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 8.3.4.3 The Owner and Architect grant to any person or entity made a party to an arbitration conducted under this Section 8.3, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Architect under this Agreement.

ARTICLE 9 TERMINATION OR SUSPENSION

§ 9.1 If the Owner fails to make payments to the Architect in accordance with this Agreement, such failure shall be considered substantial nonperformance and cause for termination or, at the Architect's option, cause for suspension of performance of services under this Agreement. If the Architect elects to suspend services, the Architect shall give seven days' written notice to the Owner before suspending services. In the event of a suspension of services, the Architect shall have no liability to the Owner for delay or damage caused the Owner because of such suspension of services. Before resuming services, the Architect shall be paid all sums due prior to suspension and any expenses incurred in the interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall be equitably adjusted.

§ 9.2 If the Owner suspends the Project, the Architect shall be compensated for services performed prior to notice of such suspension. When the Project is resumed, the Architect shall be compensated for expenses incurred in the interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall be equitably adjusted.

§ 9.3 If the Owner suspends the Project for more than 90 cumulative days for reasons other than the fault of the Architect, the Architect may terminate this Agreement by giving not less than seven days' written notice.

§ 9.4 Either party may terminate this Agreement upon not less than seven days' written notice should the other party fail substantially to perform in accordance with the terms of this Agreement through no fault of the party initiating the termination.

§ 9.5 The Owner may terminate this Agreement upon not less than seven days' written notice to the Architect for the Owner's convenience and without cause.

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§ 9.6 In the event of termination not the fault of the Architect, the Architect shall be compensated for services performed prior to termination, together with Reimbursable Expenses then due.

§ 9.7 (Not Used)

§ 9.8 The Owner's rights to use the Architect's Instruments of Service in the event of a termination of this Agreement are set forth in Article 7 and Section 11.9.

ARTICLE 10 MISCELLANEOUS PROVISIONS

§ 10.1 This Agreement 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 8.3.

§ 10.2 Terms in this Agreement shall have the same meaning as those in AIA Document A201–2007, General Conditions of the Contract for Construction — KDE Version.

§ 10.3 The Owner and Architect, respectively, bind themselves, their agents, successors, assigns and legal representatives to this Agreement. Neither the Owner nor the Architect shall assign this Agreement without the written consent of the other.

§ 10.4 If the Owner requests the Architect to execute certificates, the proposed language of such certificates shall be submitted to the Architect for review at least 14 days prior to the requested dates of execution. The Architect shall not be required to execute certificates that would require knowledge, services or responsibilities beyond the scope of this Agreement.

§ 10.5 Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Owner or Architect.

§ 10.6 Unless otherwise required in this Agreement, the Architect shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials or toxic substances in any form at the Project site.

§ 10.7 The Architect shall have the right to include photographic or artistic representations of the design of the Project among the Architect's promotional and professional materials. The Architect shall be given reasonable access to the completed Project to make such representations. However, the Architect's materials shall not include the Owner's confidential or proprietary information if the Owner has previously advised the Architect in writing of the specific information considered by the Owner to be confidential or proprietary. The Owner shall provide professional credit for the Architect in the Owner's promotional materials for the Project.

§ 10.8 Except as provided under the Kentucky Open Records Act, KRS 61.870 to KRS 61.884, if the Architect or Owner receives information specifically designated by the other party as "confidential" or "business proprietary," the receiving party shall keep such information strictly confidential and shall not disclose it to any other person except to (1) its employees, (2) those who need to know the content of such information in order to perform services or construction solely and exclusively for the Project, or (3) its consultants and contractors whose contracts include similar restrictions on the use of confidential information.

ARTICLE 11 COMPENSATION

§ 11.1 For the Architect's Basic Services described under Article 3, the Owner shall compensate the Architect as follows:
(Insert amount of, or basis for, compensation.)

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§ 11.2 For Additional Services designated in Section 4.1, the Owner shall compensate the Architect as follows:
(Insert amount of, or basis for, compensation. If necessary, list specific services to which particular methods of compensation apply.)

§ 11.3 For Additional Services that may arise during the course of the Project, including those under Section 4.3, the Owner shall compensate the Architect as follows:
(Insert amount of, or basis for, compensation.)

§ 11.4 Compensation for Additional Services of the Architect's consultants when not included in Section 11.2 or 11.3, shall be the amount invoiced to the Architect plus percent (%), or as otherwise stated below:

§ 11.5 Where compensation for Basic Services is based on a stipulated sum or percentage of the Cost of the Work, the compensation for each phase of services shall be as follows:

Schematic Design Phase:	Fifteen percent (15%)
Design Development Phase:	Twenty percent (20%)
Construction Documents Phase (Completed Plans & Specifications):	Forty percent (40%)
Bidding or Negotiation Phase:	Five percent (05%)
Construction Phase:	Twenty percent (20%)
Total Basic Compensation:	One hundred percent (100%)

§ 11.6 When compensation is based on a percentage of the Cost of the Work and any portions of the Project are deleted or otherwise not constructed, compensation for those portions of the Project shall be payable to the extent services are performed on those portions, in accordance with the schedule set forth in Section 11.5 based on (1) the lowest bona fide bid or negotiated proposal, or (2) if no such bid or proposal is received, the most recent estimate of Construction Cost as recorded on the BG-3 form approved by the Kentucky Department of Education. The Architect shall be entitled to compensation in accordance with this Agreement for all services performed whether or not the Construction Phase is commenced.

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§ 11.7 The hourly billing rates for services of the Architect and the Architect's consultants, if any, are set forth below. The rates shall be adjusted in accordance with the Architect's and Architect's consultants' normal review practices. *(If applicable, attach an exhibit of hourly billing rates or insert them below.)*

Employee or Category	Rate

§ 11.8 Compensation for Reimbursable Expenses

§ 11.8.1 Reimbursable Expenses are in addition to compensation for Basic and Additional Services and include expenses incurred by the Architect and the Architect's consultants directly related to the Project, as follows:

.1 Transportation and authorized out-of-town travel and subsistence;
.2 Long distance services, dedicated data and communication services, teleconferences, Project Web sites, and extranets;
.3 Fees paid for securing approval of authorities having jurisdiction over the Project;
.4 Printing, reproductions, plots, standard form documents;
.5 Postage, handling and delivery;
.6 Expense of overtime work requiring higher than regular rates, if authorized in advance by the Owner;
.7 Renderings, models, mock-ups, professional photography, and presentation materials requested by the Owner;
.8 Architect's Consultant's expense of professional liability insurance dedicated exclusively to this Project, or the expense of additional insurance coverage or limits requested by the Owner in excess of that required to be carried by the Architect and the Architect's Consultants by the Kentucky Department of Education;
.9 All taxes levied on professional services and on reimbursable expenses;
.10 Site office expenses; and
.11 Other similar Project-related expenditures.

§ 11.8.2 For Reimbursable Expenses the compensation shall be the expenses incurred by the Architect and the Architect's consultants of percent (%) of the expenses incurred.

§ 11.8.3 Prior to incurring Reimbursable Expenses, the Architect shall estimate the cost of the reimbursable items, and obtain approval of the Owner's representative for the expenditures.

§ 11.9 Compensation for Use of Architect's Instruments of Service

If the Owner terminates the Architect for its convenience under Section 9.5, or the Architect terminates this Agreement under Section 9.3, the Owner shall pay a licensing fee as compensation for the Owner's continued use of the Architect's Instruments of Service solely for purposes of completing, using and maintaining the Project as follows:

§ 11.10 Payments to the Architect

§ 11.10.1 (Not Used)

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§ 11.10.2 Unless otherwise agreed, payments for services shall be made monthly in proportion to services performed. Payments are due and payable upon presentation of the Architect's invoice. Amounts unpaid ( ) days after the invoice date shall bear interest at the rate entered below, or in the absence thereof at the legal rate prevailing from time to time at the principal place of business of the Architect.
(Insert rate of monthly or annual interest agreed upon.)

§ 11.10.3 The Owner shall not withhold amounts from the Architect's compensation to impose a penalty or liquidated damages on the Architect, or to offset sums requested by or paid to contractors for the cost of changes in the Work unless the Architect agrees or has been found liable for the amounts in a binding dispute resolution proceeding.

§ 11.10.4 Records of Reimbursable Expenses, expenses pertaining to Additional Services, and services performed on the basis of hourly rates shall be available to the Owner at mutually convenient times.

§ 11.10.5 The Architect shall pay each project Consultant within 10 days after receipt of each payment from the Owner for services rendered. Consultant's fees shall be based on a typical 80% x total fee for work categories paid to the Architect for which the Consultant is responsible. If the Architect's fee is a lump sum, the Consultant shall receive the same proportionate amount. If such payments are not made in a timely manner, the Consultant may make a written request that the Owner issue joint checks for all subsequent payments to the Architect naming the Architect and the Consultant as payees.

§ 11.10.6 Prior to final payment, the Architect shall provide the Owner a written statement of release from each Consultant stating that all fees up to that point have been paid. (This clause does not apply to Consultants, i.e., geotechnical engineers, land surveyors, having direct contracts with the Owner.) The Architect shall be paid his construction phase fee at the same proportionate percentage as the construction's completion until final contract completion as designated by the submission and approval of the BG-4 form by the Owner, to the Kentucky Department of Education.

ARTICLE 12 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Agreement are as follows:

ARTICLE 13 SCOPE OF THE AGREEMENT

§ 13.1 This Agreement represents the entire and integrated agreement between the Owner and the Architect and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both Owner and Architect.

§ 13.2 This Agreement is comprised of the following documents listed below:

.1 AIA Document B101™–2007, Standard Form Agreement Between Owner and Architect — KDE Version

.2 AIA Document B101™–2007, Standard Form Agreement Between Owner and Architect — KDE Version, Exhibit B, List of Design Consultants

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

.4 Other documents:
(List other documents, if any, including Exhibit A, Initial Information, and additional scopes of service, if any, forming part of the Agreement.)

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

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

EXHIBIT B — LIST OF DESIGN CONSULTANTS

(Identify Consultant, Firm, Mailing Address, Telephone and Email Address)

Structural Design:

Mechanical/Electrical Design:

Landscape/Site Design:

KETS Consultants:

Other:
(Identify Consultant and Design Area)

Sample

Professional Liability Insurance Certificates must be attached for consultants covered by KRS 322, 323, and 323A.

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AIA® Document B101™ – 2007 Exhibit A

Initial Information

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

THE OWNER:
(Name, legal status and address)

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

THE ARCHITECT:
(Name, legal status and address)

This Agreement is based on the following information.
(Note the disposition for the following items by inserting the requested information or a statement such as "not applicable," "unknown at time of execution" or "to be determined later by mutual agreement.")

ARTICLE A.1 PROJECT INFORMATION

§ A.1.1 The Owner's program for the Project:
(Identify documentation or state the manner in which the program will be developed.)

§ A.1.2 The Project's physical characteristics:
(Identify or describe, if appropriate, size, location, dimensions, or other pertinent information, such as geotechnical reports; site, boundary and topographic surveys; traffic and utility studies; availability of public and private utilities and services; legal description of the site; etc.)

§ A.1.3 The Owner's budget for the Cost of the Work, as defined in Section 6.1:
(Provide total, and if known, a line item break down.)

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§ A.1.4 The Owner's other anticipated scheduling information, if any, not provided in Section 1.2:

§ A.1.5 The Owner intends the following procurement or delivery method for the Project:
(Identify method such as competitive bid, negotiated contract, or construction management.)

§ A.1.6 Other Project information:
(Identify special characteristics or needs of the Project not provided elsewhere, such as environmentally responsible design or historic preservation requirements.)

ARTICLE A.2 PROJECT TEAM

§ A.2.1 The Owner identifies the following representative in accordance with Section 5.3:
(List name, address and other information.)

§ A.2.2 The persons or entities, in addition to the Owner's representative, who are required to review the Architect's submittals to the Owner are as follows:
(List name, address and other information.)

§ A.2.3 The Owner will retain the following consultants and contractors:
(List discipline and, if known, identify them by name and address.)

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§ A.2.4 The Architect identifies the following representative in accordance with Section 2.3:
(List name, address and other information.)

§ A.2.5 The Architect will retain the consultants identified in Sections A.2.5.1 and A.2.5.2.
(List discipline and, if known, identify them by name, legal status, address and other information.)

§ A.2.5.1 Consultants retained under Basic Services:

.1 Structural Engineer

.2 Mechanical Engineer

.3 Electrical Engineer

§ A.2.5.2 Consultants retained under Additional Services:

§ A.2.6 Other Initial Information on which the Agreement is based:
(Provide other Initial Information.)

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Kentucky Department of Education Version of AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

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

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

KENTUCKY DEPARTMENT OF EDUCATION
Every Child Proficient and Prepared for SUCCESS

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

§ 1.1.2 The Contract

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

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 The Drawings

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

§ 1.1.6 The Specifications

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

§ 1.1.7 Instruments of Service

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

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 Correlation and Intent of the Contract Documents

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

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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.

§ 1.3 Capitalization

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

§ 1.4 Interpretation

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

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

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

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 Transmission of Data in Digital Form

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

ARTICLE 2 OWNER

§ 2.1 General

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

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

§ 2.2 Information and Services Required of the Owner

§ 2.2.1 (Not Used)

§ 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.

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§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

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

§ 2.3 Owner's Right to Stop the Work

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

§ 2.4 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 General

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

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

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

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for

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information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

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

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

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

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

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

§ 3.4 Labor and Materials

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

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

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

§ 3.5 Warranty

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further

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

§ 3.6 Taxes

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

§ 3.7 Permits, Fees, Notices and Compliance with Laws

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

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

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

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

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

§ 3.8 Allowances

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

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§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

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

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

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

§ 3.10 Contractor's Construction Schedules

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

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

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

§ 3.11 Documents and Samples at the Site

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

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

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

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

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

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

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

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

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

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

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design

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concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 Use of Site

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

§ 3.14 Cutting and Patching

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

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

§ 3.15 Cleaning Up

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

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

§ 3.16 Access to Work

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

§ 3.17 Royalties, Patents and Copyrights

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

§ 3.18 Indemnification

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

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

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ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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

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

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment, and, at the discretion of the Owner may be the Owner's representative during the one-year period for correction of Work described in Section 12.2. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications Facilitating Contract Administration

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

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

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance

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

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

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

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

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

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

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

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

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

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

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design)

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proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

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

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

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

§ 5.3 Subcontractual Relations

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

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

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

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

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ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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

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

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

§ 6.2 Mutual Responsibility

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

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

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

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or 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.

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§ 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.

§ 7.1.4 Proposed Change in the Work equal to or exceeding $25,000 additive or deductive, shall be subject to approval by the Kentucky Department of Education prior to execution of the Change Order by the Owner.

§ 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.

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§ 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 not to exceed fifteen (15%) of the net cost of the change. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

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

.2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and

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

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

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

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

§ 7.4 Minor Changes in the Work

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

ARTICLE 8 TIME

§ 8.1 Definitions

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

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

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

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

§ 8.2 Progress and Completion

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

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be

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furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

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

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

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

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

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

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

§ 9.2 Schedule of Values

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

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage as stipulated in Section 9.3.4.

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

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

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

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the

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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.

§ 9.3.4 When Owner direct Purchase Orders are used, retainage that would otherwise be held on materials and equipment shall transfer to the Contractor, and the material suppliers will be paid the full amount of their invoices. The Owner shall retain ten percent (10%) from each Application for Payment, and an amount equal to ten percent (10%) of approved Purchase Order payments, up to fifty percent (50%) completion of the Work, then provided the Work is on schedule and satisfactory, and upon written request of the Contractor together with consent of surety and the recommendation of the Architect, the Owner shall approve a reduction in Retainage to five percent (5%) of the current Contract Sum plus Purchase Orders. No part of the five percent (5%) retainage shall be paid until after Substantial Completion of the Work, as defined in Section 9.8. herein. After Substantial Completion, if reasons for reduction in retainage are certified in writing by the Architect, a reduction to a lump sum amount less than the five percent (5%) retainage may be approved by the Owner when deemed reasonable. The minimum lump sum retainage shall be twice the estimated cost to correct deficient or incomplete work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

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

§ 9.5 Decisions to Withhold Certification

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

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

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§ 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 or as required by state law, whichever is more restrictive, and shall so notify the Architect.

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

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

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

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

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

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 Failure of Payment

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

§ 9.8 Substantial Completion

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

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occupancy permit issued by the Kentucky Department of Housing, Building, and Construction and any other agencies that have statutory authority and approval requirements.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

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

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

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

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

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

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

§ 9.10 Final Completion and Final Payment

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

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.1 Upon receipt and approval of the final Application for Payment, for each Contract and Purchase Order, if any, the Architect will prepare, and the Architect and Owner shall complete their portion of the Kentucky Department of Education BG-4 Contract Closeout Form – 2013, and forward the board-approved BG-4 form to the Kentucky Department of Education with a copy of the final Certificate for Payment upon the Board authorizing the BG-4 form, accepting the Work, and approving final payment to the Contractor or Material Supplier.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

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

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

.1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
.2 failure of the Work to comply with the requirements of the Contract Documents; or
.3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 10.4 Emergencies

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

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Liability Insurance

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

.1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;

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

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

.4 Claims for damages insured by usual personal injury liability coverage;

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

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

.7 Claims for bodily injury or property damage arising out of completed operations; and

.8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

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§ 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. Such insurance shall be no less than the following amounts:

(1) Public Liability	$200,000.00 one person/maximum each person $500,000.00 one accident/maximum each person
(2) Property Damage	$200,000.00 one accident/maximum $500,000.00 aggregate

§ 11.1.2.1 The insurance required by Section 11.1.1 shall be written for not less than the following limits, or greater if required by law:

(1) Worker's Compensation:	
a. State	Statutory
b. Applicable Federal (e.g., Longshoreman's)	Statutory
c. Employer's Liability	$500,000
(2) Comprehensive or Commercial General Liability (including Premises-Operations; Independent Contractor's Protection; Product Liability and Completed Operations; Broad Form Property Damage);	
a. General Aggregate (except Products-Completed Operations)	$1,000,000
b. Products-Completed Operations Aggregate	$1,000,000
c. Personal/Advertising Injury (per person/organization)	$1,000,000
d. Each Occurrence (Bodily Injury and Property Damage)	$1,000,000
e. Limit per Person Medical Expense	$10,000
f. Exclusions of Property in Contractors Care, Custody or Control will be eliminated.	
g. Property Damage Liability Insurance will provide Coverage for Explosion, Collapse, and Underground Damage.	
(3) Contractual Liability:	
a. General Aggregate	$1,000,000
b. Each Occurrence (Bodily Injury and Property Damage)	$1,000,000
(4) Automobile Liability:	
a. Bodily Injury	$500,000 Each Person $1,000,000 Each Accident
b. Property Damage	$500,000 Each Accident, or a combined single limit of $1,000,000
(5) Liability coverage for the Owner, the Architect, the Architect's Consultants and others listed in the Supplementary Conditions will be provided (subject to customary exclusions for professional liability), by endorsement as additional insured's on the Contractor's Liability Policy.	
(6) Excess Liability Umbrella Form:	
a. General Aggregate	$1,000,000
b. Each Occurrence	$1,000,000

§ 11.1.2.2 There shall be an endorsement in each of the above policies reading as follows: "It is hereby agreed that in the event of a claim arising under this policy, the company may not deny liability be reason of the insured being a state, county, municipal corporation or governmental agency."

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

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

§ 11.2 Owner's Liability Insurance

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

§ 11.3 Property Insurance

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

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

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

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

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

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or

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companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

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

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

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

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

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

§ 11.3.7 Before an exposure to loss may occur, the Owner shall provide the Architect and the Kentucky Department of Education with certificates of insurance coverage required by this Section 11.3.

§ 11.3.7 Waivers of Subrogation
The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

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

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

§ 11.4 Performance Bond and Payment Bond

§ 11.4.1 Unless otherwise provided, when the Contract Sum exceeds twenty-five thousand dollars ($25,000) the Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. A surety company authorized to do business in Kentucky shall execute bonds, and the cost thereof shall be included in the Contract Sum. Unless otherwise provided, the amount of each bond shall be equal to 100% of the Contract Sum plus Purchase Orders, or 100% of the Lump Sum Base Bid plus or minus accepted Alternates, whichever is greater.

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

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

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

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 Correction of Work

§ 12.2.1 Before or After Substantial Completion

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

§ 12.2.2 After Substantial Completion

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

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Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

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

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

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

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

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

§ 12.3 Acceptance of Nonconforming Work

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.1.1 None of the Contract Documents for this project shall be construed against the party preparing documents on the grounds that the party prepared or drafted the document, or any portion thereof.

§ 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.

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§ 13.4 Rights and Remedies

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 Tests and Inspections

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

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

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

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

§ 13.6 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as required by state law, or in the absence of law, at the legal rate prevailing at the time and place where the Project is located.

§ 13.7 Time Limits on Claims

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any

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other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

.4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case

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may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

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

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

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

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

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 Notice of Claims

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 Continuing Contract Performance

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 Claims for Additional Cost

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

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§ 15.1.5 Claims for Additional Time

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

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

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

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

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

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

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

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

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation, which shall be in accordance with the Construction Industry Mediation Procedures of the American Arbitration Association in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

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

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

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

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

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§ 15.4.4 Consolidation or Joinder

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

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

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

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

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Kentucky Department of Education Version of AIA® Document A101 – 2007

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

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

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

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

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

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

The Owner and Contractor agree as follows.

KENTUCKY DEPARTMENT OF EDUCATION
Every Child Proficient and Prepared for SUCCESS

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TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

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

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

Init.

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§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than ( ) days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work. Either list requirements for earlier Substantial Completion here or refer to an exhibit attached to this Agreement.)

Portion of Work	Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.

Liquidated Damages: As actual damages for delay in completion of Work are impossible to determine, the Contractor and his Surety shall be liable for and shall pay to the Owner the sum of

($), not as a penalty, but as fixed, agreed and liquidated damages for each calendar day of delay until the Contract Work is substantially completed as defined in the General Conditions of the Contract for Construction. The Owner shall have the right to deduct liquidated damages from money in hand otherwise due, or to become due, to the Contractor, or to sue and recover compensation for damages for failure to substantially complete the Work within the time stipulated herein. Said liquidated damages shall cease to accrue from the date of Substantial Completion.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be

($), subject to additions and deductions as provided in the Contract Documents.

(List the base bid amount, sum of accepted alternates, total construction cost (the sum of base bid amount plus sum of accepted alternates), sum of Owner's direct Purchase Orders. The Contract Sum shall equal the sum of Total Construction Cost, less Owner direct Purchase Orders. Either list this information here or refer to an exhibit attached to this Agreement.)

	Amount
Base Bid	$
Sum of Accepted Alternates	$
Total Construction Cost (the sum of base bid amount plus sum of accepted alternates)	$
Sum of Owner's direct Purchase Orders	$
Contract Sum (total construction cost less Owner direct Purchase Orders)	$

Init.

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

Number	Item Description	Amount
	Total of Alternates	

§ 4.3 Unit prices, if any:
(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable. Either list unit prices here or refer to an exhibit attached to this Agreement.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.4 Allowances included in the Contract Sum, if any:
(Identify allowance and state exclusions, if any, from the allowance price. Either list allowances here or refer to an exhibit attached to this Agreement.)

Item	Price

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ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

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

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

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

State law (KRS 371.405) requires the Owner to pay undisputed Applications for Payment within forty-five (45) business days following receipt of the invoices. If the Owner fails to pay the Contractor within forty-five (45) business days following receipt of an undisputed Application for Payment, state law requires the Owner shall pay interest to the Contractor beginning on the forty-sixth business day after receipt of the Application for Payment, computed at the rate required by state law.

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

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

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

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

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

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

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

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

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

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

§ 5.1.8 Reduction or limitation of retainage, if any, shall be as follows:
When Owner direct Purchase Orders are used, retainage that would otherwise be held on materials and equipment shall transfer to the Contractor, and the material suppliers will be paid the full amount of their invoices. The Owner shall retain ten percent (10%) from each Application for Payment, and an amount equal to ten percent (10%) of approved Purchase Order payments, up to fifty percent (50%) completion of the Work, then provided the Work is on schedule and satisfactory, and upon written request of the Contractor together with consent of surety and the recommendation of the Architect, the Owner shall approve a reduction in Retainage to five percent (5%) of the current Contract Sum plus Purchase Orders. No part of the five percent (5%) retainage shall be paid until after Substantial Completion of the Work, as defined in the General Conditions of the Contract for Construction. After Substantial Completion, if reasons for reduction in retainage are certified in writing by the Architect, a reduction to a lump sum amount less than the five percent (5%) retainage may be approved by the Owner when deemed reasonable. The minimum lump sum retainage shall be twice the estimated cost to correct deficient or incomplete work.

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

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

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201–2007 — KDE Version, and to satisfy other requirements, if any, which extend beyond final payment;
.2 a final Certificate for Payment has been issued by the Architect; and
.3 the Contractor provides the Owner with affidavits that all payrolls, bills for materials, supplies and equipment, and other indebtedness connected with the Work have been paid or otherwise satisfied, and with Consent of Surety for final payment.

ARTICLE 6 DISPUTE RESOLUTION
§ 6.1 INITIAL DECISION MAKER
The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201–2007 — KDE Version, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

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§ 6.2 BINDING DISPUTE RESOLUTION

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

☐ Arbitration pursuant to Section 15.4 of AIA Document A201–2007 — KDE Version

☐ Litigation in a court of competent jurisdiction where the Project is located

☐ Other: *(Specify)*

ARTICLE 7 TERMINATION OR SUSPENSION

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

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

ARTICLE 8 MISCELLANEOUS PROVISIONS

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

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

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

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

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

§ 8.6 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

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

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

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

§ 9.1.3 The Supplementary and other Conditions of the Contract:
(Either list Supplementary and other Conditions of the Contract here or refer to an exhibit attached to this Agreement.)

Document	Title	Date	Pages

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

Section	Title	Date	Pages

Sample

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

Number	Title	Date

§ 9.1.6 The Addenda, if any:
(Either list the Addenda here or refer to an exhibit attached to this Agreement.)

Number	Date	Pages

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

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

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

.2 Other documents, if any, listed below:

Sample

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

A. AIA Document A701–1997, Instructions to Bidders — KDE Version

B. Contractor's Form of Proposal

C. KDE Purchase Order Summary Form

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201–2007 – KDE Version.

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201–2007 – KDE Version. Either list insurance and bond information here or refer to an exhibit attached to this Agreement.)

Type of Insurance or Bond	Limit of Liability or Bond Amount ($0.00)

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

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

Sample

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Kentucky Department of Education Version of AIA® Document A132™ – 2009

Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

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Cite this document as "AIA Document A132™–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition — KDE Version," or "AIA Document A132™–2009 — KDE Version."

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Kentucky Department of Education Version of AIA® Document A132™ – 2009

Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

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

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

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

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

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

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

The Owner and Contractor agree as follows.

KENTUCKY DEPARTMENT OF EDUCATION
Every Child Proficient and Prepared for SUCCESS

This version of AIA Document A132–2009 is modified by the Kentucky Department of Education. Publication of this version of AIA Document A132 does not imply the American Institute of Architects' endorsement of any modification by the Kentucky Department of Education. A comparative version of AIA Document A132–2009 showing additions and deletions by the Kentucky Department of Education is available for review on the Kentucky Department of Education Web site.

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

This document is intended to be used in conjunction with KDE versions of AIA Documents A232™–2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition; B132™–2009, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2009, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

AIA Document A232™–2009 — KDE Version is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

Sample

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TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement, if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

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

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

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

Portion of the Work	Substantial Completion Date

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

§ 3.4 Liquidated Damages. As actual damages for delay in completion of Work are impossible to determine, the Contractor and his Surety shall be liable for and shall pay to the Owner the sum of
($),
not as a penalty, but as fixed, agreed and liquidated damages for each calendar day of delay until the Contract Work is substantially completed as defined in the General Conditions of the Contract for Construction. The Owner shall have the right to deduct liquidated damages from money in hand otherwise due, or to become due, to the Contractor, or to sue and recover compensation for damages for failure to substantially complete the Work within the time stipulated herein. Said liquidated damages shall cease to accrue from the date of Substantial Completion.

ARTICLE 4 CONTRACT SUM
§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be a Stipulated Sum in accordance with Section 4.2 below, less the Owner's direct Purchase Orders, if any, for Project materials or equipment.

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§ 4.2 Stipulated Sum
§ 4.2.1 The Stipulated Sum shall be

($), subject to additions and deletions as provided in the Contract Documents.
(List the base bid amount, sum of accepted alternates, total construction cost (the sum of base bid amount plus sum of accepted alternates), sum of Owner's direct Purchase Orders. The Contract Sum shall equal the sum of Total Construction Cost, less Owner direct Purchase Orders. Either list this information here or refer to an exhibit attached to this Agreement.)

	Amount
Base Bid	$
Sum of Accepted Alternates	$
Total Construction Cost (the sum of base bid amount plus sum of accepted alternates)	$
Sum of Owner's direct Purchase Orders	$
Contract Sum (total construction cost less Owner direct Purchase Orders)	$

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

Number	Item Description	Amount
	Total of Alternates	

§ 4.2.3 Unit prices, if any:

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(Identify and state the unit price, and state the quantity limitations, if any, to which the unit price will be applicable. Either list unit prices here or refer to an exhibit attached to this Agreement.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.2.4 Allowances included in the Stipulated Sum, if any:
(Identify allowance and state exclusions, if any, from the allowance price. Either list allowances here or refer to an exhibit attached to this Agreement.)

Item	Price

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Construction Manager by the Contractor, and upon certification of the Project Application and Project Certificate for Payment or Application for Payment and Certificate for Payment by the Construction Manager and Architect and issuance by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

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

§ 5.1.3 Provided that an Application for Payment is received by the Construction Manager not later than the day of a month, the Owner shall make payment of the certified amount in the Application for

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

§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum

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

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

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

.1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of percent (%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute may be included as provided in Section 7.3.9 of the General Conditions;

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

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

.4 Subtract amounts, if any, for which the Construction Manager or Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of the General Conditions.

§ 5.1.4.4 The progress payment amount determined in accordance with Section 5.1.4.3 shall be further modified under the following circumstances:

.1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to percent (%) of the Contract Sum, less such amounts as the Construction Manager recommends and the Architect determines for incomplete Work and unsettled claims; and

.2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of the General Conditions.

§ 5.1.4.5 When Owner direct Purchase Orders are used, retainage that would otherwise be held on materials and equipment shall transfer to the Contractor, and the material suppliers will be paid the full amount of their invoices. The Owner shall retain ten percent (10%) from each Application for Payment, and an amount equal to ten percent (10%) of approved Purchase Order payments, up to fifty percent (50%) completion of the Work, then provided the Work is on schedule and satisfactory, and upon written request of the Contractor together with consent of surety and the recommendation of the Architect, the Owner shall approve a reduction in Retainage to five percent (5%) of the current Contract Sum plus Purchase Orders. No part of the five percent (5%) retainage shall be paid until after Substantial Completion of the Work, as defined in the General Conditions of the Contract for Construction. After Substantial Completion, if reasons for reduction in retainage are certified in writing by the Architect, a reduction to a lump sum amount less than the five percent (5%) retainage may be approved by the Owner when deemed reasonable. The minimum lump sum retainage shall be twice the estimated cost to correct deficient or incomplete work.

§ 5.2 Final Payment

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

Sample

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.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2 of AIA Document A232–2009 — KDE Version, and to satisfy other requirements, if any, which extend beyond final payment;

.2 (Not Used)

.3 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect; such final payment shall be made by the Owner not more than 30 days after the issuance of the final Certificate for Payment or Project Certificate for Payment: and

.4 Neither the final payment nor any part of the remaining retained percentage of all payments shall become due until the Contractor delivers to the Owner an affidavit that all payrolls, bills for materials, supplies and equipment, and other indebtedness connected with the work have been paid or otherwise satisfied and Consent of Surety to make final payments is received.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A232–2009 — KDE Version, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A232–2009 — KDE Version, the method of binding dispute resolution shall be as follows:
(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)

☐ Arbitration pursuant to Section 15.4 of AIA Document A232–2009 — KDE Version.

☐ Litigation in a court of competent jurisdiction where the Project is located.

☐ Other: (Specify)

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 Where the Contract Sum is a Stipulated Sum

§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2009 — KDE Version.

§ 7.1.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2009 — KDE Version; in such case, the Contract Sum and Contract Time shall be increased as provided in Section 14.3.2 of AIA Document A232–2009 — KDE Version.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A232–2009 — KDE Version or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

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

Sample

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

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

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

§ 8.6 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

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

§ 9.1.1 The Agreement is this executed AIA Document A132–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition — KDE Version.

§ 9.1.2 The General Conditions are, AIA Document A232–2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition — KDE Version.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Sample

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(Either list Supplementary and other Conditions of the Contract here or refer to an exhibit attached to this Agreement.)

Document	Title	Date	Pages

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

Section	Title	Date	Pages

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

Number	Title	Date

§ 9.1.6 The Addenda, if any:

Sample

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(Either list the Addenda here or refer to an exhibit attached to this Agreement.)

Number	Date	Pages

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

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

.1

.2

.3

.4 Other documents, if any, listed below:
(List here any additional documents which are intended to form part of the Contract Documents. AIA Document A232–2009 — KDE Version provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

A. AIA Document A701™–1997, Instructions to Bidders — KDE Version

B. Contractor's Form of Proposal

C. KDE Purchase Order Summary Form

Sample

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A232–2009 — KDE Version.

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(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A232–2009 — KDE Version. Either list insurance and bond information here or refer to an exhibit attached to this Agreement.)

Type of Insurance or Bond	Limit of Liability or Bond Amount ($0.00)

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

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

Sample

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Kentucky Department of Education Version of AIA® Document A312™ – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)

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

OWNER:
(Name, legal status and address)

CONSTRUCTION CONTRACT
Date:

Amount:

Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: ☐ None ☐ See Section 16

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	

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

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or **BROKER:**

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

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

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

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

Init.

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

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

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

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

.2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

.3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

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

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

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

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

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

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

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

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

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

.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

.2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and

.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

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

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

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

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

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

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

§ 14 Definitions

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

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

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

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

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

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

§ 16 Modifications to this bond are as follows:

§ 16.1 Surety Company shall be licensed to conduct business in the Commonwealth of Kentucky.

§ 16.2 Insurance Agency and Agents issuing bond shall be registered and licensed to conduct business in the Commonwealth of Kentucky with the appropriate Power of Attorney included.

§ 16.3 Bond shall comply with all statutory requirements of the Commonwealth of Kentucky including the Kentucky Unemployment Insurance Law.

§ 16.4 No suit, action or proceeding by reason or any default whatever shall be brought on this bond after two (2) years from the date on which final payment of the contract fall due and provided further that if any alterations or additions which may be made under the contract or in the work to be done under it, or the giving by the Owner of any extension of time for the performance of the contract or any other forbearance on the part of either the Owner or the Principal shall not, in any way, release the Principal and Surety, or either of them, their heirs, executors, administrators, successors, or assigns for their liability hereunder. Notice to the Surety of any such alterations, extensions, or forbearance being expressly waived.

This obligation shall remain in force and effect until the performance of all covenants, terms and conditions herein stipulated and after such performance, it shall become null and void.

Sample

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

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	
Address		Address	

Kentucky Department of Education Version of AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)

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

OWNER:
(Name, legal status and address)

CONSTRUCTION CONTRACT
Date:

Amount:

Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: ☐ None ☐ See Section 18

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	

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

(FOR INFORMATION ONLY — Name, address and telephone)

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

KENTUCKY DEPARTMENT OF EDUCATION
Every Child Proficient and Prepared for SUCCESS

This version of AIA Document A312–2010 is modified by the Kentucky Department of Education. Publication of this version of AIA Document A312 does not imply the American Institute of Architects' endorsement of any modification by the Kentucky Department of Education. A comparative version of AIA Document A312–2010 showing additions and deletions by the Kentucky Department of Education is available for review on the Kentucky Department of Education Web site.

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

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

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

Sample

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any

Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

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

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

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

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

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

§ 16 Definitions

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

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

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

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

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

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

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

§ 18 Modifications to this bond are as follows:

§ 18.1 Surety Company shall be licensed to conduct business in the Commonwealth of Kentucky.

§ 18.2 Insurance Agency and Agents issuing bond shall be registered and licensed to conduct business in the Commonwealth of Kentucky with the appropriate Power of Attorney included.

§ 18.3 Bond shall comply with all statutory requirements of the Commonwealth of Kentucky including the Kentucky Unemployment Insurance Law.

§ 18.4 No suit, action or proceeding by reason or any default whatever shall be brought on this bond after two (2) years from the date on which final payment of the contract fall due and provided further that if any alterations or additions which may be made under the contract or in the work to be done under it, or the giving by the Owner of any extension of time for the performance of the contract or any other forbearance on the part of either the Owner or the Principal shall not, in any way, release the Principal and Surety, or either of them, their heirs, executors, administrators, successors, or assigns for their liability hereunder. Notice to the Surety of any such alterations, extensions, or forbearance being expressly waived.

This obligation shall remain in force and effect until the performance of all covenants, terms and conditions herein stipulated and after such performance, it shall become null and void.

Sample

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

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	
Address		Address	

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KENTUCKY DEPARTMENT OF EDUCATION **NON-COLLUSION AFFIDAVIT**
702 KAR 4:160

The undersigned agent, being duly sworn, states that neither he/she nor his/her firm has any relationship (financial or through kinship) to:

- Any school board member or the superintendent;
- Any or all prime contractors or material suppliers when using the construction management method of construction.

The undersigned further states that he/she has not entered into any agreement or collusion with any person relative to the price bid by anyone nor has he/she attempted to induce anyone to refrain from bidding.

Explain below any kinship or financial relationship you may have to any parties as mentioned above on this project.

_____
_____
_____

This affidavit is subject to KRS 45A.455 prohibition against conflict of interest, and gratuities and kickbacks.

_____
Name Title

_____
Name of Company

Subscribed and Sworn to Me this

_____ day of _____,

20_____.

_____
Notary Signature

My Commission expires:

_____, 20_____.

Notary Seal

Environmental and Public Protection Cabinet
Office of Housing, Buildings and Construction
Division of Building Codes Enforcement
101 Sea Hero Rd
Frankfort, KY 40601

Case Number: _____
Project Name: _____
City/County: _____

AFFIDAVIT OF ASSURANCES
PURSUANT OF KRS 198B.060(10)

Comes the Applicant, (Please Print Name) _____ and states pursuant to KRS 198B.060(10), that all contractors and subcontractors employed or that will be employed on any activity under the above referenced project shall be in compliance with the Commonwealth of Kentucky requirements for Workers' Compensation Insurance (according to KRS Chapter 342) and Unemployment Insurance (according to KRS Chapter 341).

This the _____ day of _____, 20____.

_____
CONTRACTOR, OWNER OR OWNER'S AGENT

The foregoing Affidavit of Assurance was acknowledged and sworn to before me by

_____, Applicant, on this the _____ day of _____, 20____.

_____
NOTARY PUBLIC
KENTUCKY STATE AT LARGE

MY COMMISSION EXPIRES _____, 20__.

Note: This Affidavit of Assurances shall be submitted for any project under State jurisdiction and where there is no local building official. Persons claiming exemption to the Workers' Compensation Laws should file a Waiver with the Kentucky Department of Workers' Claims, Division of Security & Compliance, 657 1270 Louisville Road, Frankfort, Kentucky 40601. (800/554-8601).