

PROJECT MANUAL

PROJECT NAME:

DSM 5JD Admin Office Roof Replacement

PROJECT ADDRESS:

1000 Washington Avenue
Des Moines, Iowa 50314

PROJECT DATE: August 02, 2023

-
OWNER:

Iowa Department of Administrative Services
109 Southeast 13th Street
Des Moines, Iowa 50319



OWNER PROJECT NUMBER: 9346.00

OWNER REQUEST FOR BID NUMBER: RFB 934600-01

-
CONSTRUCTION MANAGER:

The Samuels Group
2929 Westown Parkway, Suite 200
West Des Moines, Iowa 50266



CONSTRUCTION MANAGER PROJECT NUMBER: 7493

-
ARCHITECT:

Terracon Consultants Inc.
600 SW 7th Street
Des Moines, Iowa 50309



ARCHITECT PROJECT NUMBER: F1236072

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SECTION 00 0107

SEALS PAGE

I hereby certify that the portion of this technical submission described below was prepared by me or under my direct supervision and responsible charge.



Stamp:

Discipline: Civil

:

Company Name: Terracon Consultants, Inc.

Address: 600 SW 7th Street

Telephone: 515-244-3184

Name: Darrell L. Smith

Responsibility: Specification Sections: 02 08 10,

License#: 11460

06 10 53, 07 01 50, 07 22 00, 07 24 19,

07 53 23, 07 62 00, 07 91 13

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SECTION 00 0110

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SECTION 00 0116

BID SUBMITTAL CHECKLIST

PART 1 - GENERAL

1.01 BID SUBMITTAL CHECKLIST

- A. The Bidder is responsible to see that the bid is submitted online at [IMPACS Electronic Procurement System](#) on or before the due date and time specified. Late bids shall not be accepted.
- B. Bids shall be typewritten or in ink. All information requested shall accompany the bid. All blocks shall be completed. Errors shall be lined out and initialed.
- C. The right is reserved to reject any or all bids. The State may waive minor deficiencies or informalities in the best interest of the State of Iowa.
- D. A properly prepared and submitted bid document is the bidder's responsibility.
- E. Bids cannot be changed after the bid opening.
- F. In all cases, no verbal communications by any party will override written communications from the issuing office.
- G. The Bid Form shall be completed in full and signed and submitted by an officer of the bidder with authority to bind in a contract.
- H. If Bid Bond is called for, it shall accompany the Bid submission.
- I. If Non-discrimination Clause information is called for, it shall accompany the Bid submission.
- J. If Targeted Small Business Pre-bid Contact information is called for, it shall accompany the Bid submission.
- K. If Certificate of Site Visit form is called for, it shall accompany the Bid submission.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

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SECTION 00 1113

NOTICE TO BIDDERS

RFB #934600-01

The Iowa Department of Administrative Services will be receiving bids for the removal and replacement of existing EPDM roofing system to include demolition, insulation, roofing material, roofing installation, gutters, downspouts, ladder access revision, new roof hatch, and flashings for the 5th Judicial Administration Building, 1000 Washington Ave. Des Moines, IA.50314.

The Iowa Department of Administrative Services anticipates construction to begin on November 20, 2023 and end on May 31, 2024.

Bids must be received no later than **2:00 pm, Thursday, September 28, 2023**. Late bids will not be considered. Bids shall be submitted on [IMPACS Electronic Procurement System](#). The Bid shall be accompanied by a Bid Security as set forth in the Instructions to Bidders in the amount of 5% of the total bid amount. Each bid shall be accompanied by a bid bond, cashier's check or a certified check drawn upon a solvent bank chartered under the laws of the United States of America.

Bid Opening

The time and place of bid opening will be held at meet.google.com/naf-pugw-dup and teleconference number 1-510-646-1647 Pin: 248 262 184# at 3:00 pm on September 28, 2023.

The Iowa Department of Administrative Services reserves the right to reject any and all bids, and to waive irregularities and to accept a bid that is deemed in the best interest of the State of Iowa.

Bidders must comply with all affirmative action/equal employment opportunity provisions of the State of Iowa and the Federal Government.

This project is exempt from Iowa Sales Tax. Davis Bacon Wages **will not** apply to this project.

Questions must be submitted by **2:00 pm, September 19, 2023**, to the Issuing Officer.

Bidding documents may stipulate a specific product. Substitute product will be considered if a written request is received by **2:00 pm, September 19, 2023**, prior to bid opening. Substitution requests will be considered for all products per Section 01 2500 Substitution Procedures, even if the specification does not include a statement such as "or equal," "equal to," "equivalent to," or "basis of design," unless otherwise noted.

An **optional** Pre-Bid meeting will be held on **Thursday, September 14, 2023 at 10:00 am** at 5JD Admin Office, 1000 Washington Ave. Des Moines, Iowa 50314. Park at the west entrance parking lot or street parking of the Administrative Building. This meeting is not mandatory but is highly recommended.

Bidding Documents, including drawing sheets bearing the project name 5th Judicial District Administrative Office Roof Replacement, Dated 08/02/2023 and the Project Manual prepared by Terracon Dated 08/02/2023, may be obtained from Beeline & Blue by visiting www.beelineandblue.com or by calling (515) 244-1611 on Tuesday, September 5, 2023.

For further information regarding this project contact:

Michael Bradbury – Issuing Officer

Phone: (515) 823-9327

E-Mail: construction.procurement@iowa.gov

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SECTION 00 2113

INSTRUCTIONS TO BIDDERS

RFB #934600-01

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Project Description
- B. Owner
- C. State Agency Representatives and Contacts
- D. Proposal Form and Submissions
- E. Taxes
- F. Alternate Bids
- G. Drawings
- H. Bid Security
- I. Due Date and Time for Receipt of Bids
- J. Commencement and Completion Date
- K. Site Visit
- L. Pre-bid Meeting
- M. Questions
- N. Addenda and Interpretations of the Contract Documents
- O. Substitutions
- P. Obligation of Bidder
- Q. Public Records and Requests for Confidential Treatment
- R. Withdrawal of Bid
- S. Bid Closing
- T. Basis of Bids
- U. Informalities/Rejection of Bids
- V. Consideration of Bids
- W. Preference
- X. Qualifications
- Y. Insurance
- Z. Form of Agreement between Owner and Contractor
- AA. Execution of Contract
- BB. Laws and Regulations
- CC. Contract Documents and Order of Precedence
- DD. Conditions of the Work
- EE. Subcontracts
- FF. Project Manual/Drawings

1.02 PROJECT DESCRIPTION

- A. Project Description: The project includes the removal and replacement of existing EPDM roofing system to include demolition, insulation, roofing material, roofing installation, gutters, downspouts, ladder access revision, new roof hatch, and flashing for the 5th Judicial Administration Building, 1000 Washington Ave. Des Moines, IA.

1.03 OWNER

- A. State of Iowa, Department of Administrative Services, 109 SE 13th St, Des Moines, IA 50319

1.04 STATE AGENCY REPRESENTATIVES AND CONTACTS

- A. PURCHASING AGENT: Michael Bradbury – Issuing Officer, State of Iowa, Department of Administrative Services, Hoover State Office Building, 3rd floor, 1305 East Walnut Street, Des Moines, IA 50319-0105, Phone: 515-823-9327; email: construction.procurement@iowa.gov
- B. OWNER REPRESENTATIVE: James Trower, State of Iowa, Department of Administrative Services, 109 SE 13th Street, Des Moines, IA 50319, Phone: 515-725-4150; email: james.trower@iowa.gov
- C. ON-SITE COORDINATOR: Lance Wignall, Residential Manager, 68 Thayer Street, Des Moines, IA 50315, Phone: 515-250-4864; email: lance.wignall@iowa.gov
- D. CONSTRUCTION MANAGER CONTACT: Jerry Dehnke, Project Manager, The Samuels Group, 2929 Westown Parkway, Suite 200, West Des Moines, IA 50266, Phone: 515-661-7142; email: jdehnke@samuelsgroup.net
- E. DESIGN PROFESSIONAL CONTACT: Darrell Smith, Terracon Consultants Inc., 600 SW 7th Street, Des Moines, IA 50309, Phone: 515-557-3828; email: Darrell.Smith@terracon.com

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 PROPOSAL FORM AND SUBMISSION

- A. A properly prepared and submitted bid is the bidder's responsibility. Bids are to be made in accordance with these Instructions to Bidders and items included on the Bid submission. Failure to comply may be cause for rejection.
- B. The Bid is to consist of the required Bid information, together with the other information specified below to be submitted with the Bid, in which copies are included with these Bidding Documents.
1. The total bid package submitted is required to include the following:
 - a. An online submission including:
 - 1) Required Bid Form (To be uploaded online)
 - 2) Required Non-discrimination Clause Information
 - 3) Required Targeted Small Business Pre-bid Contact Information
 - 4) Bid Security (documentation provided by Bidder) (To be uploaded online) (Required)
 - 5) Certification of Site Visit (To be uploaded online if Pre-Bid is Mandatory)
- C. Include the amount for performing all work described in the drawings and specifications for Base Bid and for each Alternate Bid requested.
- D. Acknowledge receipt of all Addenda issued, where so indicated on the Bid Form
- E. All required information to be submitted, by an officer of the company having authority to bind the company in a contract.
- F. Commencement of the work of the contract shall begin with the Contractor's receipt of a fully executed contract (signed by both parties).
- G. The Owner reserves the right to award a contract for Base Bid only, or for Base Bid in combination with any, or all, identified Alternate Bids. The Owner reserves the right to award a contract for individual Bid Packages, or any combination of Bid Packages. Each Bidder must comply with all of the General Requirements of the project and any requirements of the Project manual that apply to their scope of work.
- H. The company's Federal I.D. Number and the Iowa Contractors Registration Number shall be included in the Bid Form.

- I. Unless indicated otherwise, the Bid shall be for a single responsibility contract for all work as indicated on the Drawings and specified in the Project Manual, and shall be a lump sum amount. If no change in the Base Bid amount is required with respect to consideration of a particular Alternate Bid, enter "No Change" in the blank for that Alternate Bid.
- J. Where so requested, provide Unit Prices for the designated types of work and in the units specified, in which the Unit Prices would be used as adjustments to the quantities described in the instructions as the basis for the Base Bid and any Alternate Bid work. A Unit Price would be applicable in the event the Owner should request additional work of that type beyond the extent and quantity that has been established as the scope of the work by graphic delineation and notations on the Drawings, or by otherwise stipulating in the Bidding Documents a numerical quantity of the work, for the Bidder's use in determining the lump sum bid amount for the Base Bid and any requested Alternate Bid containing such work. The Unit Prices shall also be used to adjust the Contract Amount for actual quantities of work involved when the work subject to Unit Price adjustment differs by being less in quantity than that contemplated by the original scope of work for the respective Base Bid or Alternate Bid.
- K. Completed State of Iowa Nondiscrimination Clause information and Subcontractor Targeted Small Business Enterprise Pre-Bid Contact Information, included in these Bidding Documents, are to accompany the Bid submission. Bidders shall comply with all affirmative action/equal opportunity provisions of State and Federal laws. The Owner seeks to provide opportunities for Targeted Small Businesses in accordance with the provisions of Chapter 73 of the Code of Iowa.
- L. All Bid information is to be submitted online. Any required Bid Security shall be provided, in the form and amount specified elsewhere in these Instructions to Bidders, at the time of submission of the Bid. When a site visit is mandatory as specified elsewhere in these Instructions to Bidders, and a Certificate of Site Visit is required to be submitted with the Bid as evidence of such visit having occurred for purposes of observing the conditions of the site and the work proposed therein, the Certificate shall be uploaded with the bid submission.

3.02 TAXES

- A. In accordance with Section 423 of the Code of Iowa and 701-19 of the Iowa Administrative Rules, Iowa Construction Sales Tax Exemption Certificates for this project will be issued. Do not include Iowa sales tax or use tax, or any local option sales tax, on construction materials in determining your bid prices. The successful Contractor will be required to notify the Department of Administrative Services project manager of all Subcontractors within forty-eight (48) hours after the published date and time by which bids must be submitted. Information on the Contractor and each Subcontractor shall include the firms' name, address, contact person, federal tax identification number, and the Iowa contractor registration number. For the Contractor and each Subcontractor, designate the type of trade or category of work that is to be provided on the project. The Construction Manager for the Department of Administrative Services must be informed when any Subcontractor is added to the project. Following receipt of the information, the Construction Manager for the Department of Administrative Services will arrange to have an authorization letter and certificate (please see sample, included in the Project Manual) issued on behalf of the Contractor and each Subcontractor and will forward the documents to the Contractor for distribution and use by each in purchasing construction materials for this project. Certificates issued for this project shall be used for tax-exempt purchasing construction materials for this project only.

3.03 ALTERNATE BIDS

- A. Bidders are to bid all Alternates requested on the Bid Form. Alternates quoted will be reviewed and accepted or rejected at the option of the Department of Administrative Services. Accepted Alternates will be identified in the Owner-Contractor agreement. Indicate the price for Alternates described, as shown on the Drawings and specified in the Project Manual, and identify in the correct location on the Bid Form.

3.04 DRAWINGS AND PROJECT MANUAL

- A. Drawings and Project Manual are specified in the Notice to Bidders or any extension thereof made by Addendum.

3.05 BID SECURITY

- A. Each Bid shall be accompanied by Bid Security.
- B. The Bid Security shall be in the form of a Bid Bond, Certified check, or Cashier's check in an amount not less than five percent (5%) of the maximum value of the Bid, including any additive Alternates. NOTE: Checks other than Certified checks and Cashier's checks will not be accepted. Bonds shall be issued by a bonding company licensed to transact business in the State of Iowa. The Attorney in Fact who signs the Bond shall file with the Bond a certified and effectively dated copy of their Power of Attorney. The Bid Security shall be made payable to the Iowa Department of Administrative Services, and shall accompany the Bid. If a Bid Bond is not used, copies of Certified checks or Cashier's checks must be uploaded and hand delivered, in a sealed envelope, or mailed upon request. The Bid Security shall serve as a guarantee that a Bidder who is offered a contract will enter into an Agreement with the State of Iowa and will file an approved surety company's Performance Bond, Payment Bond and the Insurance Certificates as evidence of the required Insurance prior to execution of the contract. Upon failure to comply, the Bid Security shall be forfeited as liquidated damages. The governmental entity shall retain the bid security furnished by the successful bidder until the approved contract form has been fully executed, a bond has been filed by the bidder guaranteeing the performance of the contract, and the contract and bond have been approved by the governmental entity. The provisions of chapter 573, where applicable, apply to contracts awarded under this chapter. The governmental entity shall promptly return the checks or bidder's bonds of unsuccessful bidders to the bidders once the Notice of Intent to Award is issued.

3.06 DUE DATE AND TIME FOR RECEIPT OF BIDS

- A. Properly completed Bids shall be submitted online through [IMPACS Electronic Procurement System](#), no later than the time and date specified in the Notice to Bidder or any extension thereof made by Addendum. Written, emailed, oral or telephonic Bids are invalid, and will not receive consideration. The Bidder shall assume full responsibility for the timely online submission of the Bid. Late bids will not be accepted.

3.07 COMMENCEMENT AND COMPLETION DATES

- A. Commencement of the Work of the Contract shall be the day of receipt by the selected Contractor of the fully-executed contract. Final completion of the Work of the contract shall be acknowledged as a part of the Contractor's proposal.

3.08 SITE VISIT

- A. A site visit by the prospective bidder is highly recommended at the time of the Pre-Bid Meeting of this project.

3.09 PRE-BID MEETING

- A. Pre-Bid Meeting will be specified in the Notice to Bidders or any extension thereof made by Addendum.

3.010 QUESTIONS

- A. Questions on this project may be raised and discussed at the time of the Pre-Bid Meeting or by submitting in writing to the issuing officer as specified in the Notice to Bidders or any extension thereof made by Addendum.

3.011 ADDENDA AND INTERPRETATIONS OF THE CONTRACT DOCUMENTS

- A. Any person contemplating submitting a proposal for the proposed Contract, who is in doubt as to the true meaning of any part of the Bidding Documents, shall submit a written request for an interpretation thereof. The person submitting a request will be responsible for its prompt delivery. Every request for such interpretation should reference the Bid Number specified in the Bidding Documents, and shall be made in writing (email preferred). Questions shall be submitted to the previously identified Purchasing Agent for the Department of Administrative Services. To be given consideration, requests shall be received as specified in the Notice to Bidders or any extension thereof made by Addendum. Replies, which revise or correct the Bidding Documents, or provide necessary clarifications, will be issued in the form of a written Addendum to the Bidding Documents. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections, or changes. The Bidder is to include any resultant cost changes in the Bid Sum. Addenda will be posted electronically at the respective bid site where the bid is initially posted. Acknowledgment by the Bidder of each issued Addendum shall be noted in the location so indicated on the Bid. All Addenda issued shall become part of the Contract Documents.

3.012 SUBSTITUTIONS

- A. Where the Bidding Documents stipulate a specific product be provided by naming one or more manufacturer and model, a substitute product will be considered when a written request is received as specified in the Notice to Bidders or any extension thereof made by Addendum prior to bid opening. Substitution requests will be considered for all products per Section 01 2500 Substitution Procedures, even if the specification does not include a statement such as “or equal,” “equal to,” “equivalent to,” or “basis of design,” unless otherwise noted. Substitution requests shall be emailed to the Issuing Officer at the email address provided in Instructions to Bidders Section 1.04.

3.013 OBLIGATION OF BIDDER

- A. It shall be the responsibility of each Bidder contemplating the submission of a Bid for the proposed Contract to fully acquaint himself/herself with conditions at the work site, project requirements, and to become acquainted thoroughly with the work, and all conditions that may be related to it. No considerations or revision in the contract price or scope of the project will be considered by the Owner for any item that could have been revealed by a thorough on-site inspection and examination.
- B. By submission of a Bid, it shall be understood that the Bidder assures that he/she has reviewed and is thoroughly familiar with the project requirements, contract conditions and supplementary conditions, the drawings, specifications, addenda, and that the bidder is aware of the conditions existing at the site that may relate to the work of this project. Failure of any Bidder to examine any form, document, or other instrument shall in no way relieve the Bidder from any obligation in respect to his/her Bid.

3.014 PUBLIC RECORDS AND REQUESTS FOR CONFIDENTIAL TREATMENT

- A. The Agency’s release of public records is governed by Iowa Code chapter 22. Contractors are encouraged to familiarize themselves with Chapter 22 before submitting a Proposal. The Agency will copy and produce public records upon request as required to comply with Chapter 22 and will

- treat all information submitted by a Contractor as non-confidential records unless Contractor requests specific parts of the Proposal be treated as confidential at the time of the submission as set forth herein AND the information is confidential under Iowa or other applicable law.
- B. A Contractor requesting confidential treatment of specific information must: (1) fully complete Form 22 (Available at <https://das.iowa.gov/sites/default/files/procurement/pdf/Form%2022-ConfidentialityRequest-RFB.pdf>), (2) identify the request in the transmittal letter with the Contractor's Proposal, (3) conspicuously mark the outside of its Proposal as containing confidential information, (4) mark each page upon which confidential information appears, and (5) submit a "Public Copy" from which the confidential information has been excised.
 - C. Form 22 will not be considered fully complete unless, for each confidentiality request, the Contractor: (1) enumerates the specific grounds in Iowa Code chapter 22 or other applicable law that supports treatment of the material as confidential, (2) justifies why the material should be maintained in confidence, (3) explains why disclosure of the material would not be in the best interest of the public, and (4) sets forth the name, address, telephone, and e-mail for the person authorized by Contractor to respond to inquiries by the Agency concerning the confidential status of such material.
 - D. The Public Copy from which confidential information has been excised is in addition to the number of copies requested in Section 3 of this RFP. The confidential material must be excised in such a way as to allow the public to determine the general nature of the material removed and to retain as much of the Proposal as possible.
 - E. **Failure to request information be treated as confidential as specified herein shall relieve Agency and State personnel from any responsibility for maintaining the information in confidence. Contractors may not request confidential treatment with respect to pricing information and transmittal letters. A contractor's request for confidentiality that does not comply with this section or a contractor's request for confidentiality on information or material that cannot be held in confidence as set forth herein are grounds for rejecting contractor's Proposal as non-responsive. Requests to maintain an entire Proposal as confidential will be rejected as non-responsive.**
 - F. If Agency receives a request for information that Contractor has marked as confidential and if a judicial or administrative proceeding is initiated to compel the release of such material, Contractor shall, at its sole expense, appear in such action and defend its request for confidentiality. If Contractor fails to do so, Agency may release the information or material with or without providing advance notice to Contractor and with or without affording Contractor the opportunity to obtain an order restraining its release from a court possessing competent jurisdiction. Additionally, if Contractor fails to comply with the request process set forth herein, if Contractor's request for confidentiality is unreasonable, or if Contractor rescinds its request for confidential treatment, Agency may release such information or material with or without providing advance notice to Contractor and with or without affording Contractor the opportunity to obtain an order restraining its release from a court possessing competent jurisdiction.

3.015 WITHDRAWAL OF BID

- A. A Bid may be modified or withdrawn only before the time and date for receipt of Bids. Said request for modification or withdrawal of a bid must be completed online through [IMPACS Electronic Procurement System](#). A Bid shall remain valid for consideration by the Owner for the following period(s) of time after the date specified for receipt of Bids, or until such time following that period that the apparent low bidder requests in writing that the Bid be withdrawn, after which the Bid may be withdrawn without forfeiture of any required Bid Security. The Bid shall be valid for not less than thirty (30) calendar days after the date Bids are specified to be due. With the approval of the Department of Administrative Services, a bid may be withdrawn after opening, but only if the bidder provides prompt written notification that adequately documents the commission of an honest error that may cause undue financial loss.

3.016 BID OPENING

- A. All bids received on or before the due date and time specified in the Notice to Bidder or any extension thereof made by Addendum will be opened and the name of the Bidder and the amount of their Bid will be announced.

3.017 BASIS OF BIDS

- A. The Bidder shall include all additional documents or appendices that are requested to be submitted concurrent with the Bid submission; failure to comply may be cause for rejection.
- B. In accordance with Iowa law, Section 8A.311: A bidder, to be considered for an award of a state construction contract, shall disclose to the state agency awarding the contract the names of all subcontractors and suppliers who will work on the project being bid, within forty-eight (48) hours after the published date and time by which bids must be submitted. A bidder shall not replace a subcontractor or supplier disclosed without the approval of the state agency awarding the contract.
 - 1. A bidder, prior to an award or who is awarded a state construction contract, shall disclose all of the following, as applicable:
 - a. If a subcontractor or supplier disclosed (under the preceding) by a bidder is replaced, the reason for replacement and the name of the new subcontractor or supplier;
 - b. If the cost of work to be done by a subcontractor or supplier is changed or if the replacement of a subcontractor or supplier results in a change in the cost, the amount of the change in cost.
 - c. Any reduction in subcontractor or supplier price as a result of the change, if the change is approved by the Owner, shall be deducted from the Trade Contract via a deductive Change Order. Any such changes, if approved by the Owner, which result in an increase in the Trade Contract Price shall be borne by the Trade Contractor.
- C. The Bidder is specifically advised that any person, firm or other party to whom it is proposed to award a subcontract under this contract must:
 - 1. Be registered in the State of Iowa and have an Iowa Contractor's Registration number, and
 - 2. Be acceptable to the Owner.

3.018 INFORMALITIES/ REJECTION OF BIDS

- A. The Iowa Department of Administrative Services reserves the right to waive any irregularities or informalities and to enter into a Contract with a Bidder, or to reject any or all bids as it deems to be in the best interest of the State, without penalty.

3.019 CONSIDERATION OF BIDS

- A. It is the intent of the Department of Administrative Services to award a Contract to the lowest responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and is determined to be compliant with all Bidding Requirements, and does not exceed the funds available for construction.
- B. Bidder is to bid on each Alternate Bid requested. Failure to do so may result in disqualification of the bid. The Department of Administrative Services reserves the right to accept any, or no, Alternate Bid. Alternate Bids may be considered in any order or combination, and the low successful Bidder will be determined on the basis of the sum of the Base Bid and the Alternate(s) accepted at the time of the Contract award.
- C. In evaluating Bids, any proposal offered by a Bidder for an alternate design, or for materials other than those shown or specified for the Base Bid or for Alternate Bid construction under the proposed Construction Documents or called for by any issued Addenda to those Construction Documents, will not be considered in determining the low successful Bidder. However, the Department of Administrative Services reserves the right to consider any such Bidder-proposed

- (Contractor's Alternate) alternate designs or materials with the low successful Bidder, after the low successful Bidder is determined in the manner described above (A and B).
- D. Notice of Intent to Award the Bid(s) will be sent to all Respondents submitting a timely Bid and may be posted at the website shown on the RFB cover sheet. Negotiation and execution of the Contract(s) shall be completed no later than fifteen (15) days from the date of the Notice of Intent to Award or such other time as designated by Agency. If the successful Bidder fails to negotiate and deliver an executed Contract, including all required documents such as payment and performance bonds and insurance certificate, by that date, the Agency, in its sole discretion, may cancel the award and award the Contract to the remaining Bidder the Agency believes will provide the best value to the State.

3.020 PREFERENCE

- A. By virtue of statutory authority, a preference shall be given to Iowa domestic labor, products produced and provisions grown within the state of Iowa, in accordance with the provisions of Chapter 73, Code of Iowa and any amendments thereto.
- B. Enforcement of reciprocal resident bidder preference and resident labor force preference codified at Iowa Code Section 73A.21.
1. NOTICE: Failure on the part of the bidder to carefully read the following paragraphs and to provide the information requested below may make the bidder's bid materially nonresponsive and therefore ineligible for contract award. Violations of Iowa Code Section 73A.21 may, among other things, result in civil penalties assessed by the Commissioner of the Division of Labor of Iowa Workforce Development. The bidder should seek out the advice of an attorney if he or she has questions about Iowa Code Section 73A.21. As a part of the competitive procurement of contracts for Public Improvements that must be awarded to the low bidder (if the bid is responsive and the bidder is deemed responsible), Public Bodies shall allow a preference to Resident Bidders if a Nonresident Bidder places a bid for the contract for the Public Improvement and that Nonresident Bidder's state or foreign country gives resident bidders of that state or foreign country a preference (including a labor force preference or any type of preferential treatment). The preference allowed, or reciprocally applied, shall be equal to the preference given or required by the state or foreign country in which the Nonresident Bidder is a resident bidder.
- "Public Body" means the State of Iowa (and its agencies) and any of its political subdivisions, including school districts, public utilities, and the state board of regents.
- "Public Improvement" means a building or other construction work to be paid for in whole or in part by the use of funds of the State of Iowa, its agencies, and any of its political subdivisions and includes road construction, reconstruction, and maintenance projects.
- "Resident Bidder" means a person or entity authorized to transact business in of the State of Iowa and having a place of business for transacting business within the State of Iowa at which it is conducting and has conducted business for at least three years prior to the date of the first advertisement for the public improvement. Note, however, that if a nonresident bidder's state or foreign country has a more stringent definition of a resident bidder, the more stringent definition is applicable as to bidders from that state or foreign country.
- "Nonresident Bidder" means a person or entity who does not meet the definition of a resident bidder.
- C. Nonresident bidders shall be required to certify on the Bid submission, where so indicated, the state or foreign country in which the firm is a resident, and if that state or foreign country uses a percentage for in-state bidders and the amount of the preference.
- D. If it is determined that this may cause denial of federal funds which would otherwise be available, or would otherwise be inconsistent with requirements of federal law, this section shall be suspended, but only to the extent necessary to prevent denial of the funds or to eliminate the inconsistency with federal requirements.

3.021 QUALIFICATIONS

- A. In accordance with Iowa Code 26.9(2) and 26.16, no potential bidder shall be required to provide confidential or proprietary information or meet any class requirements as a precondition to submitting a responsive bid. However, as noted in Iowa Code 26.9(2), the lowest responsive bidder may be required to provide additional information to verify responsibility prior to and as a condition of obtaining final award of the contract. Any qualification requirements contained in any bid document indicates only preferred qualifications, not a precondition to bid, and the lowest responsive bidder's qualifications will be evaluated individually based on all information provided.
- B. The Owner may make such investigations as he or she deems necessary to determine the ability of the awarded Bidder to perform the required work, and the awarded Bidder shall furnish to the Owner all such information and data for this purpose. The Owner reserves the right to rescind any awarded Bid if the evidence submitted by, or in investigation of, such Bidder fails to satisfy the Owner that the Bidder is properly qualified to carry-out the obligations of the Contract and to complete the Work contemplated therein.
- C. Bidders shall be registered as a Construction Contractor with the Labor Commissioner, Iowa Workforce Development Department, as required by Chapter 91C of the Code of Iowa. Bidder's Iowa Contractor Registration Number shall be included in the location provided in the Bid Form.
- D. Non-resident corporations submitting bids must be in compliance with Section 490.1501 of the Code of Iowa and legally authorized thereby to carry-on such business in the State of Iowa as is required by the Contract Documents.
- E. An out-of-state Bidder, if awarded a contract, will be required to submit evidence of authorization to do business in the State of Iowa.

3.022 INSURANCE

- A. Insurance Requirements
 - 1. The Contractor shall maintain in effect, with insurance companies of recognized responsibility, at its expense, insurance covering its work of the type and in amounts required by this Contract. The Contractor's insurance shall, among other things, insure against any loss or damage resulting from the Contractor's performance of this Contract. All such insurance policies shall remain in full force and effect for the entire life of this Contract and shall not be canceled or changed except after thirty (30) days written notice to the Owner.
 - 2. **Amounts of Insurance Required – Refer to ConsensusDOCS 802 (see template in Project Manual)**
- B. Certificates of Coverage
 - 1. Certificates of the insurance described above shall be submitted to the Owner before starting any construction activities and shall be subject to approval by the Owner. The Contractor shall provide certificates for the insurance required. The insurer shall state in the certificate that no cancellation of the insurance will be made without at least thirty (30) days prior written notice to the Contractor. Upon receipt of any notice of cancellation or alteration, Contractor shall within ten (10) days procure other policies of insurance, similar in all respects to the policy or policies, about to be canceled or altered, and, if the Contractor fails to provide, procure, and deliver acceptable policies of insurance, or satisfactory evidence thereof, in accordance with the terms hereof then, at the Owner's option, Owner may obtain such insurance at the cost and expense of Contractor, without the need of any notice to Contractor.
- C. No Limitation of Liability
 - 1. Acceptance of the insurance certificates by the Owner shall not act to relieve the Contractor of any obligation under this Contract. All insurance policies and certificates shall be issued only by companies authorized to transact business in the State of Iowa. It shall be the responsibility of the Contractor to keep the respective insurance policies and coverage's current and in force during the life of this agreement.
 - 2. A Sample Certificate of Insurance is attached for reference following this Section.

3.023 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

- A. The Agreement for the Work will be written on ConsensusDOCS 802 Form of Agreement between Owner and Contractor (sample of the document with modifications incorporated is bound in this Project Manual).

3.024 EXECUTION OF CONTRACT

- A. Contract documents shall mean and include the following:
 1. Contract: ConsensusDOCS 802
 2. Performance and Payment Bonds
 3. Project Manual
 4. Drawings
 5. Numbered Addenda issued after initial publication of Bid Documents
 6. Numbered Modifications (Change Orders) issued after Contract is signed

3.025 LAWS AND REGULATIONS

- A. The Bidder's attention is directed to the fact that all applicable laws and regulations of Federal and State agencies having jurisdiction over the construction of this project shall apply to any contract resulting from this proposal, and it shall be deemed that those rules and regulations are made a part of such contract the same as if set forth in their entirety therein. By submitting a Bid, the Bidder confirms that he/she is familiar with and understands the Contractor's responsibility under all Federal and State of Iowa laws and regulations with respect to the Work described by the proposed Contract Documents.

3.026 CONTRACT DOCUMENTS AND ORDER OF PRECEDENCE

- A. Where an irreconcilable conflict exists among Applicable Legal Requirements, this Contract, the specifications in the Materials and the Drawings, the earliest item mentioned in this sentence involving a conflict shall control over any later mentioned item or items subject to such conflict unless doing so would result in reducing the Bidder's duty of care or obligations under this Contract, in which case the terms resulting in the highest requirements for Bidder performance shall control.

3.027 CONDITIONS OF THE WORK

- A. Each bidder must fully inform him/herself of the conditions under which the work is to be performed at the site of the work, the obstacles which may be encountered, and all other relevant matters concerning the work to be performed. Failure to do so will not relieve a successful bidder of the obligation to furnish all material and labor necessary to carry out the provisions of the contract. When a site visit is required by provisions located elsewhere in these Instructions to Bidders, as a site tour in conjunction with a mandatory Pre-Bid Meeting, it shall be the Bidder's responsibility to fulfill this obligation as a condition of bidding the Work described in the Bidding Documents.
- B. No allowance will be made for any additional compensation by reason of any matter or condition with which the bidder might have fully informed him/herself, but failed to do so prior to bidding. Insofar as possible, the Contractor and all subcontractors shall employ such methods or means in carrying out the work so as not to cause any interruption of, or interference with, the work of any other subcontractor or trade.

3.028 SUBCONTRACTS

- A. The Prime Contractor shall be responsible for notifying all subcontractors and suppliers and informing them that they are bound in each case by all applicable provisions of the bidding information and those of the proposed Form of Agreements as defined in the Contract Documents.

END OF SECTION

SECTION 00 2113.01

IMPACS Public Construction Bidders User Guide

Public construction bids must be submitted on-line at [IMPACS Electronic Procurement System](#).

Bidders must be registered in IMPACS to submit a Bid.

To create an account, enter your email address and click on “Next” and click “Create Account”. Bidder must enter all fields noted with * including legal company name, contact first and last name, phone number, confirm email address, password, re-enter password, select account recovery question including answer, confirm answer, select box accepting websites use terms and conditions and select security check box “I’m not a robot”.

On the [IMPACS Electronic Procurement System](#) Customer Portal Home page, Bidder selects “View Event” in the Sourcing Events section.

Sourcing Events ?

Show Opening or Closing Soon ▾ [Go to Public Opportunities](#)

Event Number	Status	Event Title	Dates	Action
RFB923700-02	Open	Hoover East Side Pavers	Open: 4/27/2022 12:00:00 PM CDT Close: 5/5/2022 12:00:00 PM CDT	View Event ▾

Bidders can view event details including description, prerequisites, buyer attachments, questions and answers.

To submit a Bid, Bidder must select “**Yes, I intend to Bid**”. Bidder must complete the following sections.

Prerequisites - Bidder must complete all prerequisites.

- Bidder must upload a file of the Bid Security/Bond for 5% of total Bid Amount and certify that if they are awarded the construction contract they will enter into the contract at the Bid Amount submitted.
- Bidder must upload the completed and signed Bid Form.
NOTE: Bids are to be entered on the Bid Form only; not in the IMPACS. As a result, IMPACS will display a bid amount of \$0.

Questions - Bidder must complete all questions.

Review & Submit - Bidder must select the certification box certifying that the statements and information in response are true and correct to the best of their knowledge and belief.

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SECTION 00 3113
PRELIMINARY SCHEDULE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Preliminary Construction Schedule
- B. Schedule Durations

1.02 PRELIMINARY SCHEDULE

- A. A preliminary schedule has been identified by the Owner for the implementation of the Project. Refer to the schedule following this Section for references to anticipated milestones and construction duration.
- B. Each step of the Preliminary Schedule is subject to receipt of acceptable bids, Owner's decision process and date of commencement.
- C. A proposed construction schedule shall be submitted by all Trade Contractors to the Construction Manager no later than 48 hours prior to the pre-construction meeting. A revised Construction Schedule will be submitted by the Construction Manager once all preliminary schedules are reviewed and approved by the Owner.
- D. The final construction schedule will be established post award of bids with the cooperation of all contractors.

1.03 SCHEDULE DURATIONS

- A. Anticipated Notice of Intent to Award – 10/02/2023
- B. Anticipated Date of Commencement – 10/17/2023
- C. Substantial Completion by – 05/31/2024

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 00 3143

PERMIT APPLICATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Permit Application Information
- B. Licenses, Permits, and Related Inspections

1.02 PERMIT APPLICATION INFORMATION

- A. State Building Code Plan Review: The plan review and inspections for this project have been applied for by the Architect. Please contact your inspector prior to construction and occupancy.
- B. Electrical Permit and Inspections: Trade Contractor is responsible for permits and inspections.
- C. Other Applicable inspections: Trade Contractor is responsible for any other applicable project specific permits and inspections.

1.03 LICENSES, PERMITS, AND RELATED INSPECTIONS

- A. The Bidder shall comply with all codes, laws, ordinances, rules and regulations of any public authority having jurisdiction that bears on the performance of its work. All construction, materials and methods shall comply with the State Building Codes, except where plans and specifications establish a higher standard.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

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SECTION 00 4116

BID FORM

The Bid Form must be submitted online through the State’s [IMPACS Electronic Procurement System](#).

RFB #934600-01

BID FORM for CONSTRUCTION CONTRACT
for
5JD Administrative Office
1000 Washington Avenue, Des Moines, Iowa
Project 9346.00

Iowa Department of Administrative Services
Hoover State Office Building, Level 3
1305 East Walnut Street
Des Moines, Iowa 50319-0105

The following information is to be completed and submitted with your bid..

1. Bid Form - Completed and Signed (to be uploaded with bid submission)
2. Non-Discrimination Clause Information
3. Contractor Targeted Small Business Enterprise Pre-Bid Contract Information
4. Bid Security – 5% of total Bid amount (to be uploaded with bid submission)

Authorized Representative:

The undersigned Bidder, in response to your Request for Bid for construction of the above project, having examined the Drawings, Specifications, and other Bidding Documents dated *August 08, 2023*, and Addenda issued and acknowledged below as received and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, equipment and supplies to perform all work to construct the project in strict accordance with the proposed Contract Documents, within the time and at the prices stated below. Prices are to cover all expenses incurred in performing the work required under the proposed Contract Documents, of which this bid is a part.

Bidder acknowledges receipt of the following Addenda which are a part of the Bidding Documents and for which any effect on cost of the Work is included in the bid amounts indicated:

Number _____

Dated _____

Note that the State of Iowa is exempt from State and Local sales and use taxes (including local option and school option) for this project. Taxes on construction materials shall NOT be included in the bid amounts.

Amounts shall be indicated in both words and figures. In case of discrepancy, the amount indicated in words shall govern.

BID PACKAGES:

BP 01 - Roofing

Description: 5JD Administrative Office Roof Replacement.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____ Dollars
(\$_____).

ALTERNATES:

ALT 01 – Covered Curbs

Description: Existing covered curbs on Level E have steel structural frame support. Cut frame down and place new decking, new insulation, and adhered EPDM over.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____ Dollars
(\$_____).

Unit Price:

Unit Price 01 – ISO Insulation Replacement (Additive or Deductive of base bid quantity)

Description: 1. Removal of damaged /or wet insulation and replace with new polyisocyanurate insulation board.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

Unit Cost: \$ _____ / Per One SF

Bidder hereby certifies that:

1. This bid is genuine and is not made in the interest of or on behalf of any undisclosed person, firm or corporation;
2. Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain any advantage over any other bidder or over the Owner.
3. Bidder hereby certifies that the Bidder is registered with the Iowa Labor Commissioner as a Contractor as required by Chapter 91C, Code of Iowa.

- 4. Bidder agrees to comply with all Federal and State Affirmative Action/Equal Employment Opportunity requirements concerning fair employment and will not discriminate between or among them by reason of race, color, religion, sex, national origin or physical handicap.
- 5. All construction under this Contract shall conform to the requirements of the *Iowa State Building Code*.
- 6. Bidder agrees that this bid shall remain valid and shall not be withdrawn for a period of thirty (30) calendar days after the date for receipt of bids.
- 7. Bidder agrees that if written notice of acceptance of this bid is mailed, emailed, or delivered to the undersigned within thirty (30) days after the date in which bids are due, or at any time thereafter before it is withdrawn, the undersigned will sign and return the Contract Agreement, prepared in accord with the Bidding Documents and this bid as accepted; and will also provide proof of insurance coverage and required surety bonds.
- 8. Bidder understands that the Owner reserves the right to reject any and all bids, and to waive irregularities or informalities and enter into a contract for the work, as the Owner deems to be in the best interest of the State.
- 9. Bidder understands that the Owner reserves the right to accept any, or no, Alternate Bid, if requested, and that the Alternate Bids may be considered in any order or combination, and the low Bidder shall be determined on the basis of the sum of the base bid and any Alternate(s) accepted.

Subcontractors:

The Trade Contractor must identify all Subcontractors and Suppliers within 48 hours of the published date and time for which bids must be submitted, in accordance with Iowa Code Section 8A311, as amended by House File 646 in 2011. Subcontractors and suppliers may not be changed without the approval of the Owner. Requests for changing a Subcontractor or supplier must identify the reason for the proposed change, the name of the new Subcontractor or supplier, and the change in the subcontractor or supplier price as a result of the change. Any reduction in subcontractor or supplier price as a result of the change, if the change is approved by the Owner, shall be deducted from the Trade Contract Price via a deductive Change Order. Any such changes, if approved by the Owner, which result in an increase in the Trade Contract Price shall be borne by the Trade Contractor.

Enforcement of Reciprocal Resident Bidder Preference, per Iowa Code 73A.21.

All bidders shall either check the box next to "Resident Bidder" or check the box next to "Nonresident Bidder" and by doing so and signing thereafter certifies and attests to the same. All information requested must be provided. Seek out the advice of an attorney if you have questions. "Resident Bidder" means a person or entity authorized to transact business in of the State of Iowa and having a place of business for transacting business within the State of Iowa at which it is conducting and has conducted business for at least three years prior to the date of the first advertisement for the public improvement. Note, however, that if a nonresident bidder's state or foreign country has a more stringent definition of a resident bidder, the more stringent definition is applicable as to bidders from that state or foreign country.

Resident Bidder

Name of Resident Bidder: _____

By: _____
Authorized Agent and Signatory of Resident Bidder

OR:

Nonresident Bidder

Name of Nonresident Bidder: _____

Name of State or Foreign Country of Nonresident Bidder: _____

Particularly identify and describe any preference, labor preference, or any other type of preferential treatment, in effect in the nonresident bidder's state or foreign country at the time of this bid:

NOTICE: Nonresident Bidders domiciled in a state or country with a resident labor force preference shall make and keep, for a period of not less than three years, accurate records of all workers employed on the public improvement. The records shall include each worker's name, address, telephone number when available, social security number, trade classification, and the starting ending time of employment.

By: _____
Authorized Agent and Signatory of Nonresident Bidder

Bid Form shall be signed by an officer of the company with authority to bind in a contract. Notice of acceptance of this bid, or request for additional information by the Department of Administrative Services, may be addressed to the undersigned at the address set forth below:

Legal Name of Firm: _____

Date: _____

Signature of Bidder: _____

Title: _____

Typed Name of Signatory: _____

Email: _____

Business Address:

Telephone Number: _____ Fax Number: _____

Federal Tax Identification Number: _____

Iowa Contractor Registration Number: _____

Bidder Safety Manager Name: _____

For an out-of-state Bidder, Bidder certifies that the Resident Preference given by the State or Foreign Country of Bidder's residence, _____, is _____ %.

END OF SECTION

SECTION 00 4116.01

NON-DISCRIMINATION CLAUSE

This Section is for informational purposes only. All information will be submitted online through the State's [IMPACS Electronic Procurement System](#).

PART 1 - GENERAL

All contractors, subcontractors, vendors and suppliers of goods and services doing business with the State of Iowa and value of said business equals or exceeds \$10,000 annually, agree as stated below.

1.01 NONDISCRIMINATION CLAUSE

- A. The contractor, subcontractor, vendor and supplier of goods and services will not discriminate against an employee or applicant for employment because of race, creed, color, sex, national origin, ancestry, religion, economic status, age, disability, political opinion, or affiliations of an applicant or employee based upon the nature of the job occupation. The contractor, subcontractor, vendor and supplier will develop an Affirmative Action Program to insure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, sex, national origin, ancestry, religion, economic status, age, disability, political opinions or affiliations. Such action shall include, but not be limited to the following:
 - 1. Employment.
 - 2. Upgrading.
 - 3. Demotion or transfer.
 - 4. Recruitment and advertising.
 - 5. Layoff or termination.
 - 6. Rates of pay or other forms of compensation.
 - 7. Selection for training, including apprenticeship.
- B. The contractor, subcontractor, vendor and supplier of goods and services will, in all solicitations or advertisements for employees, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, national origin, ancestry, religion, economic status, age, disability, political opinion or affiliations.
- C. The contractor, subcontractor, vendor and supplier or their collective bargaining representative will send to each labor union or representative or workers with which they have a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representative of the contractor's commitments under this section.
- D. The contractor, subcontractor, vendor and supplier of goods and services will comply with all published rules, regulations, directives and orders of the State of Iowa Affirmative Action Program Contract Compliance Provisions.
- E. The contractor, subcontractor, vendor and supplier of goods and services will furnish and file compliance reports within such time and upon such forms as provided by the Equal Employment Opportunity Officer, said forms may elicit information as to the policies, procedures, patterns, and practices of each subcontractor as state as the contractor themselves and said contractor, subcontractor, vendor and supplier will permit access to their employment books, records and accounts to the State's Equal Employment Opportunity Officer, for the purpose of investigation to ascertain compliance with this Contract and with rules regulations of the State's Affirmative Action Program.
- F. In the event of the contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations and orders; this Contract may be canceled,

terminated or suspended in whole or in part and the Contractor may be declared ineligible for further contracts in accordance with procedures authorized by the State of Iowa.

- G. The contractor, subcontractor, vendor and supplier of goods and services will include, or incorporate by reference, the provisions of the nondiscrimination clause in every contract, subcontract or purchase order unless exempted by the rules, regulations or orders of the State's Affirmative Action Program, and will provide in every subcontract or purchase order that said provisions will be binding upon each contractor, subcontractor or seller.
- H. The parties agree to comply with "Compliance with the Law; Nondiscrimination in Employment" of the current Terms and Conditions at the award of this contract. Current Terms and Conditions may be found on the following web site and are, by this reference, made a part of this Agreement. <https://das.iowa.gov/procurement/terms-and-conditions>
- I. We certify and recognize that we are morally and legally committed to nondiscrimination in employment. Any person who applies for employment with our company will not be discriminated against because of race, creed, color, sex, national origin, ancestry, religion, economic status, age or disabilities, unless disabilities are based upon the nature of the job occupation.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 00 4116.02

TARGETED SMALL BUSINESS INFORMATION

This Section is for informational purposes only. All information will be submitted online through the State's [IMPACS Electronic Procurement System](#).

PART 1 - GENERAL

1.01 TARGETED SMALL BUSINESS INFORMATION

- A. Subcontractor Targeted Small Business Enterprise Pre-Bid Contact Information, including subcontractor and dollar amount to be subcontracted, is to accompany the Bid submission. Bidders shall comply with all affirmative action/equal opportunity provisions of State and Federal laws. The Owner seeks to provide opportunities for Targeted Small Businesses in accordance with the provisions of Chapter 73 of the Code of Iowa.

- B. [Search the Targeted Small Business Directory](#) for certified State of Iowa Targeted Small Businesses.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
 SUBCONTRACTOR
 TARGETED SMALL BUSINESS ENTERPRISE
 PRE-BID CONTRACT INFORMATION

CONTRACTOR	BID NO.
(to be completed by bidder)	
PAGE #	

You are requested to provide the information on this form showing your targeted Small Business enterprises contacts made prior to your bid submission. This information is subject to verification and confirmation. NOTE: The Department of General Services will not regard your acceptance or use of a low quote or bid from a non-targeted Small Business Enterprise on any subcontract item as evidence itself of any lack of good faith effort to solicit targeted Small Business Enterprise subcontractors on this project. However, every effort shall be made to solicit quotes or bids on as many subcontractable items as necessary to evidence affirmative action in contracting.

TABLE OF INFORMATION SHOWING BIDDER'S PRE-BID TARGETED SMALL BUSINESS ENTERPRISE CONTACTS

SUBCONTRACTOR	TSB	DATES CONTACTED	QUOTES RECEIVED		QUOTATION USED IN BID	
			YES/NO	DATES	YES/NO	DOLLAR AMOUNT PROPOSED TO BE SUBCONTRACTED

Total dollar amount proposed to be subcontracted to TSB on this project \$ _____
 List items to be subcontracted. (If more space is needed, use reverse side.)

SECTION 00 4313

BID SECURITY FORMS

PART 1 - GENERAL

1.01 BID SECURITY FORMS

- A. A Bid Bond form will be required on this project. An amended ConsensusDocs 262 is attached for reference following this page. ConsensusDocs bid bond form is not required (other standard forms are acceptable to the State of Iowa).

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION



CONSENSUSDOCS 262
BID BOND
(AMENDED BY STATE OF IOWA)

This document was developed through a collaborative effort of organizations representing a wide cross-section of the design and construction industry. The organizations endorsing this document believe it represents a fair allocation of risk and responsibilities for all project participants.

Endorsing organizations recognize that this document must be reviewed and adapted to meet specific needs and applicable laws. This document has important legal and insurance consequences. You are encouraged to consult legal, insurance and surety advisors before completing or modifying this document. The software includes a notes section indicating where information is to be inserted to complete this document. Further information and endorsing organizations' perspectives are available at www.consensusdocs.org/guidebook.

For Use with ConsensusDOCS 200, Standard Form of Agreement and General Conditions Between Owner and Constructor (Where the Contract Price is a Lump Sum) and ConsensusDOCS 500, Standard Agreement and General Conditions Between Owner and Construction Manager.

The Trade Contractor, _____ (the "Trade Contractor") has submitted a Bid to the Owner, _____, (the "Owner") for the _____ (the "Project") in accordance with the Bidding Documents, including Drawings and Specifications prepared by _____ (the "Design Professional").

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.

By virtue of this Bid Bond (the "Bond"), the Constructor as Principal and _____ as Surety ("Surety"), are bound to the Owner as Obligee in the maximum amount _____, Dollars (\$_____) (the "Bond Sum"). The Constructor and Surety hereby bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein.

1. If the Obligee shall accept the bid of the Constructor, the Constructor shall enter into an Agreement with the Obligee in accordance with the terms of such Bid.
2. Constructor shall procure such bond or bonds as are specified in the Contract Documents for the faithful performance of the Work and for the prompt payment of labor and materials furnished in the performance of the Work.
3. If the Constructor fails to enter such Agreement and give such bonds, the Constructor shall pay to the Obligee the difference between the amount of Constructor's bid and the amount of such agreement the Obligee in good faith executes with another Party to perform the Work covered by Constructor's Bid, not to exceed the Bond Sum stated above.
4. If the Constructor shall fulfill its obligation under Articles 1 through 3, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

This Bond is entered into as of _____ (date)

SURETY: _____ (seal)

BY:

Print Name: _____

Print Title: _____ (Attach Power of Attorney)

Witness:

(Additional signatures, if any, appear on attached page)

Constructor: _____ (seal)

BY:

Print Name: _____

Print Title: _____

Witness:

(Additional signatures, if any, appear on attached page)

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SECTION 00 5200

AGREEMENT FORM

PART 1 - GENERAL

1.01 AGREEMENT FORM

- A. The Form of Agreement to be used on this project is a modified ConsensusDocs 802. A sample is attached following this page.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

ConsensusDocs 802

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND TRADE CONTRACTOR

(Where the Construction Manager Is the Owner's Agent)



TABLE OF ARTICLES

1. AGREEMENT
2. GENERAL PROVISIONS
3. TRADE CONTRACTOR'S OBLIGATIONS
4. OWNER'S RESPONSIBILITIES
5. SUBCONTRACTS
6. TRADE CONTRACT TIME
7. TRADE CONTRACT PRICE
8. CHANGES
9. PAYMENT
10. INDEMNITY, INSURANCE, WAIVERS AND BONDS
11. SUSPENSION, NOTICE TO CURE AND TERMINATION OF AGREEMENT
12. DISPUTE MITIGATION AND RESOLUTION
13. MISCELLANEOUS PROVISIONS
14. TRADE CONTRACT DOCUMENTS

This Agreement has important legal and insurance consequences. Consultations with an attorney and with insurance and surety consultants are encouraged with respect to its completion or modification. Notes indicate where information is to be inserted to complete this Agreement.



ARTICLE 1 AGREEMENT

This Trade Contractor Agreement is made effective as of the XX day of Month, Year , by and between the

OWNER

State of Iowa - DAS, Department of Administrative Services ("DAS"). DAS's principal office is located: 109 SE 13th Street, Des Moines, IA 50319-0120.

and the

TRADE CONTRACTOR

Contractor Name

Address

City, State, Zip

for work in connection with the following

PROJECT

XXXX.XX - Project Name

The CONSTRUCTION MANAGER is

Construction Manager Name

Address

City, State, Zip

The DESIGN PROFESSIONAL for the Project is

Designer Name

Address

City, State, Zip

Notice to the Parties shall be given at the above addresses.

ARTICLE 2 GENERAL PROVISIONS

2.1 RELATIONSHIP OF PARTIES The Owner and the Trade Contractor agree to proceed with this Agreement on the basis of mutual trust, good faith and fair dealing and shall cooperate with each other and with the Construction Manager and Design Professional in furthering the Owner's interests. The Trade Contractor shall use its diligent efforts to perform the work in an expeditious manner consistent with the Trade Contract Documents. The Owner and the Trade Contractor will endeavor to promote harmony and cooperation among all Project participants.

2.1.1 The Owner and the Trade Contractor shall perform their obligations with integrity, ensuring at a minimum that

2.1.1.1 conflicts of interest shall be avoided or disclosed promptly to the other Party; and

2.1.1.2 the Trade Contractor and the Owner warrant that they have not and shall not pay nor receive any contingent fees or gratuities to or from the other Party, including its agents, officers and employees, Subcontractors or others for whom they may be liable, to secure preferential



treatment.

2.2 PROJECT ORGANIZATION This Agreement is for the performance of work described herein in connection with the construction of the Project. The Owner also may enter into separate agreements with other trade contractors for other portions of the Project. The Owner has entered or will enter into a Construction Management Agreement with the Construction Manager, and a design agreement with the Design Professional.

2.3 INDEPENDENT CONTRACTOR The Trade Contractor represents that it is an independent contractor and that its performance of the Trade Contract Work it shall act as an independent contractor. Neither Trade Contractor nor any of its agents or employees shall act on behalf of the Owner except as provided in this Agreement or unless authorized in writing by the Owner.

2.4 CONSTRUCTION MANAGER IS OWNER'S AGENT The Construction Manager will represent the Owner as its agent in the administration and management of this Agreement. Any instructions, reviews, approvals, orders or directions given to the Trade Contractor by the Construction Manager will be given on behalf of and as agent for the Owner. The Trade Contractor shall be obligated to respond or perform as if the same were given directly by the Owner. The Trade Contractor shall communicate and provide all requests and concerns regarding the Trade Contract Work to the Construction Manager. The Trade Contractor shall provide copies to the Construction Manager of all notices to the Owner required by and regarding this Agreement.

2.5 CONSTRUCTION MANAGER NOT IN PRIVITY WITH TRADE CONTRACTOR This Agreement shall not give the Trade Contractor any claim or right of action against the Construction Manager. The Trade Contractor and its subcontractors shall not be beneficiaries of any obligations of the Construction Manager. This Agreement shall not create a contractual relationship between any parties except the Owner and the Trade Contractor.

2.5A NO THIRD-PARTY BENEFICIARY There are no third-party beneficiaries of this Agreement.

2.6 DESIGN PROFESSIONAL The Owner, through its Design Professional, shall provide all architectural and engineering design services necessary for the completion of the Work, except the following:

No exceptions

The Trade Contractor shall not be required to provide professional services which constitute the practice of architecture or engineering except as otherwise provided in section 3.15.

2.6.1 The Owner shall obtain from the Design Professional either a license for Trade Contractor and Subcontractors to use the design documents prepared by the Design Professional or ownership of the copyrights for such design documents, and shall defend, indemnify and hold harmless the Trade Contractor against any suits or claims of infringement of any copyrights or licenses arising out of the use of the design documents. To the extent portions of this paragraph are in conflict with SF 396 (codified at Iowa Code Section 537A.5) said portions are void and unenforceable.

2.7 EXTENT OF AGREEMENT This Agreement is solely for the benefit of the Parties, represents the entire integrated agreement between the Parties, and supersedes all prior negotiations, representations and agreements, either written or oral. This Agreement and each and every provision is for the exclusive benefit of the Owner and the Trade Contractor and not for the benefit of any third party except to the extent expressly provided in this Agreement. In the event of conflict between this Agreement and any of the Exhibits or any other documents incorporated into this Agreement, the terms and provisions of this Agreement shall control.

2.8 DEFINITIONS



2.8.1 Agreement means this ConsensusDocs 802 Standard Form of Agreement Between Owner and Trade Contractor (Where the Construction Manager is the Owner's Agent), as modified by the Parties, and Exhibits and Attachments made part of this Agreement upon its execution.

2.8.2 Design Professional means the Architect, Design Professional or Engineer identified in ARTICLE 1 and its consultants, retained by Owner to perform design services for the Project, and licensed in the State in which the Project is located. The use of the term Design Professional in this Agreement is for convenience and is not intended to imply or infer that the individual or entity named in ARTICLE 1 will provide design professional services in a discipline in which it is not licensed.

2.8.3 Construction Manager means the Construction Manager identified in ARTICLE 1 and its authorized representative.

2.8.4 The Construction Schedule is the document initially prepared by and updated by the Construction Manager and approved by the Owner that indicates proposed activity sequences, durations, or milestone dates for such activities as receipt and approval of pertinent information, issuance of the Construction Documents, the preparation and processing of shop drawings and samples, delivery of materials or equipment requiring long-lead-time procurement, Owner's occupancy requirements and estimated dates of Substantial Completion and Final Completion of the Project.

2.8.5 The term Day shall mean calendar day unless otherwise specifically defined.

2.8.6 Final Completion occurs on the date when the Trade Contractor's obligations under this Agreement are complete and accepted by the Owner and final payment becomes due and payable, as established in ARTICLE 6. This date shall be confirmed by a Certificate of Final Completion signed by the Owner and the Trade Contractor.

2.8.7 A Hazardous Material is any substance or material identified now or in the future as toxic or hazardous under any federal, state or local law or regulation, or any other substance or material which may be considered hazardous or otherwise subject to statutory or regulatory requirements governing handling, disposal or clean-up.

2.8.8 A Material Supplier is a person or entity retained by the Trade Contractor to provide material or equipment for the Trade Contract Work. This definition is not intended to, and shall not be interpreted to, expand or modify the definition(s) of materials or material suppliers contained in Iowa Code Chapter 573.

2.8.9 Others means other contractors, material suppliers, and persons at the Worksite who are not employed by the Trade Contractor or Subcontractors.

2.8.10 The term Overhead shall mean a) payroll costs and other compensation of Trade Contractor employees in the Trade Contractor's principal and branch offices; b) general and administrative expenses of the Trade Contractor's principal and branch offices including deductibles paid on any insurance policy and c) the Trade Contractor's capital expenses, including interest on capital used for the Work.

2.8.11 Owner is the person or entity identified in ARTICLE 1 as Owner, and includes the Owner's representative.

2.8.12 The Project, as identified in ARTICLE 1, is the building, facility or other improvements for which the Trade Contractor is to perform the Trade Contract Work.

2.8.13 A Subcontractor is a person or entity retained by the Trade Contractor as an independent contractor to provide the labor, materials, equipment or services necessary to complete a specific



portion of the Work. This definition is not intended to, and shall not be interpreted to, expand or modify the definition(s) of materials or material suppliers contained in Iowa Code Chapter 573.

2.8.14 Per Iowa Code Section 26.13, "substantially completed" means the first date on which any of the following occurs: (1) Completion of the Project (or Trade Contract Work, in the case of the multiple Trade Contractors) or when the Project (or Trade Contract Work in the case of multiple Trade Contractors) has been substantially completed in general accordance with the terms and provisions of the contract. (2) The work on the Project (or Trade Contract Work in the case of multiple Trade Contractors) or on the designated portion is substantially completed in general accordance with the terms of the contract so that the State Iowa can occupy or utilize the Project or designated portion of the Project for its intended purpose. (3) The Project (or Trade Contract Work in the case of multiple Trade Contractors) is certified as having been substantially completed by either of the following: (a) the architect or engineer authorized to make such certification (which is defined in this Agreement as the Design Professional). (b) The authorized contract representative (which is defined in this Agreement as the Owner's Representative). (4) The State of Iowa is occupying or utilizing the Project (or Trade Contract Work in the case of multiple Trade Contractors) for its intended purpose. This subparagraph shall not apply to highway, bridge, or culvert projects.

2.8.15 Terrorism means a violent act, or an act that is dangerous to human life, property or infrastructure, that is committed by an individual or individuals and that appears to be part of an effort to coerce a civilian population or to influence the policy or affect the conduct of any government by coercion. Terrorism includes, but is not limited to, any act certified by the United States government as an act of terrorism pursuant to the Terrorism Risk Insurance Act, as amended.

2.8.16 A Trade Contract Change Order is a written order signed by the Owner and the Trade Contractor after execution of this Agreement, indicating changes in the scope of the Trade Contract Work, the Trade Contract Price or Trade Contract Time, including substitutions proposed by the Trade Contractor and accepted by the Owner. Trade Contract Change Orders shall be executed using the ConsensusDOCS 813 Trade Contract Change Order (CM as Owner's Agent) form document with exhibits attached as necessary.

2.8.17 The Trade Contract Documents consist of this Agreement (as modified), the drawings, specifications, addenda issued prior to execution of this Agreement, approved submittals, information furnished by the Owner under subsection 4.1.3, the bid documents, other documents listed in this Agreement and any modifications issued after execution.

2.8.18 The Trade Contract Price is the amount indicated in section 7.1 of this Agreement.

2.8.19 The Trade Contract Time is the period between the Date of Commencement and Final Completion.

2.8.20 Trade Contract Work means the construction and services provided by the Trade Contractor.

2.8.20.1 Changed Work means work that is different from the original scope of Trade Contract Work; or work that changes the Trade Contract Price or Trade Contract Time.

2.8.20.2 Defective Work is any portion of the Trade Contract Work that is not in conformance with the Trade Contract Documents.

2.8.21 The Trade Contractor is the person or entity identified in ARTICLE 1 and includes the Trade Contractor's Representative.

2.8.22 The term Work means the construction and services necessary or incidental to fulfill the Trade



Contractors' obligations for the Project. The Work may refer to the whole Project or only a part of the Project.

2.8.23 Worksite means the geographical area at the location of the Project as identified in ARTICLE 1 where the Trade Contract Work is to be performed.

ARTICLE 3 TRADE CONTRACTOR'S OBLIGATIONS

3.1 GENERAL RESPONSIBILITIES

3.1.1 RESPONSIBILITIES The Trade Contractor shall provide all of the labor, materials, equipment and services necessary to complete the Trade Contract Work, all of which shall be provided in full accord with or as reasonably inferable from the Trade Contract Documents as being necessary to produce the indicated results.

3.1.2 The Trade Contractor shall be responsible for the supervision and coordination of the Trade Contract Work, including the construction means, methods, techniques, sequences and procedures utilized, unless the Trade Contract Documents give other specific instructions. In such case, the Trade Contractor shall not be liable to the Owner for damages resulting from compliance with such instructions unless the Trade Contractor recognized and failed to timely report to the Owner any error, inconsistency, omission or unsafe practice that it discovered in the specified construction means, methods, techniques, safety, sequences or procedures.

3.1.3 The Trade Contractor shall perform Trade Contract Work only within locations allowed by the Trade Contract Documents, applicable permits and applicable local law.

3.2 COOPERATION WITH WORK OF OWNER AND OTHERS

3.2.1 The Owner may perform work at the Worksite directly or by Others. Any agreements with Others to perform construction or operations related to the Project shall include provisions pertaining to insurance, indemnification, waiver of subrogation, coordination, interference, clean up and safety which are substantively the same as the corresponding provisions of this Agreement.

3.2.2 In the event that the Owner elects to perform work at the Worksite directly or by Others, the Trade Contractor and the Owner shall, with the assistance of the Construction Manager, coordinate the activities of all forces at the Worksite and agree upon fair and reasonable schedules and operational procedures for Worksite activities. The Owner shall require each separate contractor to cooperate with the Trade Contractor and assist with the coordination of activities and the review of construction schedules and operations. The Trade Contract Price and Trade Contract Time shall be equitably adjusted, as mutually agreed by the Parties, for subsequent changes made necessary by the coordination of construction activities, and the Trade Contractor's construction schedule and the Construction Schedule shall be revised accordingly. The Trade Contractor, Owner and Others shall adhere to the revised Construction Schedule until it may subsequently be revised.

3.2.3 With regard to the work of the Owner and Others, the Trade Contractor shall (a) proceed with the Trade Contract Work in a manner which does not hinder, delay or interfere with the work of the Owner or Others or cause the work of the Owner or Others to become defective, (b) afford the Owner or Others reasonable access for introduction and storage of their materials and equipment and performance of their activities, and (c) coordinate the Trade Contractor's construction and operations with theirs as required by this section.

3.2.4 Before proceeding with any portion of the Trade Contract Work affected by the construction or operations of the Owner or Others, the Trade Contractor shall give the Owner and Construction



Manager prompt written notification of any defects the Trade Contractor discovers in their work which will prevent the proper execution of the Trade Contract Work. The Trade Contractor's obligations in this section do not create a responsibility for the work of the Owner or Others, but are for the purpose of facilitating the Trade Contract Work. If the Trade Contractor does not notify the Owner and Construction Manager of patent defects interfering with the performance of the Trade Contract Work, the Trade Contractor acknowledges that the work of the Owner or Others is not defective and is acceptable for the proper execution of the Trade Contract Work. Following receipt of written notice from the Trade Contractor of defects, the Owner, through the Construction Manager, shall promptly inform the Trade Contractor what action, if any, the Trade Contractor shall take with regard to the defects.

3.3 RESPONSIBILITY FOR PERFORMANCE

3.3.1 In order to facilitate its responsibilities for completion of the Work in accordance with and as reasonably inferable from the Trade Contract Documents, prior to commencing the Work the Trade Contractor shall examine and compare the drawings and specifications with information furnished by the Owner pursuant to subsection 4.1.3, relevant field measurements made by the Trade Contractor and any visible conditions at the Worksite affecting the Trade Contract Work.

3.3.2 If in the course of the performance of the obligations in subsection 3.3.1 the Trade Contractor discovers any errors, omissions or inconsistencies in the Contract Documents, the Trade Contractor shall promptly report them to the Owner and Construction Manager. It is recognized, however, that the Trade Contractor is not acting in the capacity of a licensed design professional, and that the Trade Contractor's examination is to facilitate construction and does not create an affirmative responsibility to detect errors, omissions or inconsistencies or to ascertain compliance with applicable laws, building codes or regulations. Following receipt of written notice from the Trade Contractor of defects, the Owner shall promptly inform the Trade Contractor what action, if any, the Trade Contractor shall take with regard to the defects.

3.3.3 The Trade Contractor shall have no liability for errors, omissions or inconsistencies discovered under subsections 3.3.1 and 3.3.2 unless the Trade Contractor fails to report a recognized problem to the Owner and Construction Manager.

3.3.4 The Trade Contractor may be entitled to additional costs or time if there are changes in the scope of the Trade Contract Work that increase the cost of the Work or increase the number of days required to perform the Work, respectively, because of clarifications or instructions arising out of the Trade Contractor's reports described in the three preceding Subsections.

3.4 CONSTRUCTION PERSONNEL AND SUPERVISION

3.4.1 The Trade Contractor shall provide competent supervision for the performance of the Trade Contract Work. Before commencing the Trade Contract Work, Trade Contractor shall notify Owner and Construction Manager in writing of the name and qualifications of its proposed superintendent(s) and project manager so Owner and Construction Manager may review the individual's qualifications. If, for reasonable cause, the Owner or Construction Manager refuses to approve the individual, or withdraws its approval after once giving it, Trade Contractor shall name a different superintendent or project manager for Owner's and Construction Manager's review. Any disapproved superintendent shall not perform in that capacity thereafter at the Worksite.

3.4.2 The Trade Contractor shall be responsible to the Owner for acts or omissions of parties or entities performing portions of the Trade Contract Work for or on behalf of the Trade Contractor or any of its Subcontractors.

3.4.3 The Trade Contractor shall permit only qualified persons to perform the Trade Contract Work. The



Trade Contractor shall enforce safety procedures, strict discipline and good order among persons performing the Trade Contract Work. If the Owner or Construction Manager determines that a particular person does not follow safety procedures, or is unfit or unskilled for the assigned work, the Trade Contractor shall immediately reassign the person on receipt of the Owner's or Construction Manager's written notice to do so.

3.4.4 TRADE CONTRACTOR'S REPRESENTATIVE The Trade Contractor's authorized representative is . The Trade Contractor's representative shall possess full authority to receive instructions from the Owner and to act on those instructions. The Trade Contractor shall notify the Owner and the Construction Manager in writing of a change in the designation of the Trade Contractor's representative. The Trade Contractor's representative is also authorized to bind the Trade Contractor in all matters relating to this Agreement including, without limitation, all matters requiring the Trade Contractor's approval, authorization, or written notice. The Trade Contractor's representative is also authorized to resolve disputes in accordance with Section 12.2 of this Agreement.

3.5 MATERIALS FURNISHED BY THE OWNER OR OTHERS

3.5.1 In the event the Trade Contract Work includes installation of materials or equipment furnished by the Owner or Others, it shall be the responsibility of the Trade Contractor to examine the items so provided and thereupon handle, store and install the items, unless otherwise provided in the Trade Contract Documents, with such skill and care as to provide a satisfactory and proper installation. Loss or damage due to acts or omissions of the Trade Contractor shall be the responsibility of the Trade Contractor and may be deducted from any amounts due or to become due the Trade Contractor. Any defects discovered in such materials or equipment shall be reported at once to the Owner and Construction Manager. Following receipt of written notice from the Trade Contractor of defects, the Owner shall promptly inform the Trade Contractor what action, if any, the Trade Contractor shall take with regard to the defects.

3.6 TESTS AND INSPECTIONS

3.6.1 The Trade Contractor shall schedule all required tests, approvals and inspections of the Trade Contract Work or portions thereof at appropriate times so as not to delay the progress of the Trade Contract Work or other work related to the Project. The Trade Contractor shall give proper notice to the Construction Manager and to all required parties of such tests, approvals and inspections. If feasible, the Owner and Others may timely observe the tests at the normal place of testing. Except as provided in subsection 3.6.3, the Owner shall bear all expenses associated with tests, inspections and approvals required by the Trade Contract Documents, which, unless otherwise agreed to, shall be conducted by an independent testing laboratory or entity retained by the Owner. Unless otherwise required by the Trade Contract Documents, required certificates of testing, approval or inspection shall be secured by the Trade Contractor and promptly delivered to the Owner and Construction Manager.

3.6.2 If the Owner, Construction Manager or appropriate authorities determine that tests, inspections or approvals in addition to those required by the Trade Contract Documents will be necessary, the Trade Contractor shall arrange for the procedures and give timely notice to the Owner, Construction Manager and Others who may observe the procedures. Costs of the additional tests, inspections or approvals are at the Owner's expense except as provided in subsection 3.6.3.

3.6.3 If the procedures described in subsections 3.6.1 and 3.6.2 indicate that portions of the Trade Contract Work fail to comply with the Trade Contract Documents, the Trade Contractor shall be responsible for costs of correction and retesting.

3.7 WARRANTY



3.7.1 The Trade Contract Work shall be executed in accordance with the Trade Contract Documents in a workmanlike manner. The Trade Contractor warrants that all materials and equipment shall be furnished in sufficient quantities to facilitate the proper and expeditious execution of the Trade Contract Work and shall be new unless otherwise specified, of good quality, in conformance with the Trade Contract Documents, and free from defective workmanship and materials. At the Owner's or Construction Manager's request, the Trade Contractor shall furnish satisfactory evidence of the quality and type of materials and equipment furnished. The Trade Contractor further warrants that the Trade Contract Work shall be free from material defects not intrinsic in the design or materials required in the Trade Contract Documents. The Trade Contractor's warranty does not include remedies for defects or damages caused by normal wear and tear during normal usage, use for a purpose for which the Project was not intended, improper or insufficient maintenance, modifications performed by the Owner or Others, or abuse. The Trade Contractor's warranty pursuant to this section shall commence on the Date of Substantial Completion.

3.7.2 The Trade Contractor shall obtain from its Subcontractors and material suppliers any special or extended warranties required by the Trade Contract Documents. All such warranties shall be listed in an attached Exhibit to this Agreement.

3.8 CORRECTION OF TRADE CONTRACT WORK WITHIN ONE YEAR

3.8.1 If, prior to Substantial Completion and within one year after the date of Substantial Completion of the Trade Contract Work, any Defective Work is found, the Owner shall promptly notify the Trade Contractor in writing. Unless the Owner provides written acceptance of the condition, the Trade Contractor shall promptly correct the Defective Work at its own cost and time and bear the expense of additional services required for correction of any Defective Work for which it is responsible. If within the one-year correction period the Owner discovers and does not promptly notify the Trade Contractor or give the Trade Contractor an opportunity to test or correct Defective Work as reasonably requested by the Trade Contractor, the Owner waives the Trade Contractor's obligation to correct that Defective Work as well as the Owner's right to claim a breach of the warranty with respect to that Defective Work.

3.8.2 With respect to any portion of Trade Contract Work first performed after Substantial Completion, the one-year correction period shall be extended by the period of time between Substantial Completion and the actual performance of the later Trade Contract Work. Correction periods shall not be extended by corrective work performed by the Trade Contractor.

3.8.3 If the Trade Contractor fails to correct Defective Work within a reasonable time after receipt of written notice from the Owner prior to final payment, the Owner may correct it in accordance with the Owner's right to carry out the Trade Contract Work in section 11.2. In such case, an appropriate Trade Contract Change Order shall be issued deducting the cost of correcting such deficiencies from payments then or thereafter due the Trade Contractor. If payments then or thereafter due Trade Contractor are not sufficient to cover such amounts, the Trade Contractor shall pay the difference to the Owner.

3.8.4 If after the one-year correction period but before the applicable limitation period the Owner discovers any Defective Work, the Owner shall, unless the Defective Work requires emergency correction, promptly notify the Trade Contractor. If the Trade Contractor elects to correct the Defective Work, it shall provide written notice of such intent within fourteen (14) Days of its receipt of notice from the Owner. The Trade Contractor shall complete the correction of Defective Work within a time frame mutually agreed upon by the Trade Contractor and the Owner. If the Trade Contractor does not elect to correct the Defective Work, the Owner may have the Defective Work corrected by itself or Others and charge the Trade Contractor for the reasonable cost of the correction and other directly related



expenses. Owner shall provide Trade Contractor with an accounting of correction costs it incurs.

3.8.5 If the Trade Contractor's correction or removal of Defective Work causes damage to or destroys other completed or partially completed Work or existing buildings, the Trade Contractor shall be responsible for the cost of correcting the destroyed or damaged property.

3.8.6 The one-year period for correction of Defective Work does not constitute a limitation period with respect to the enforcement of the Trade Contractor's other obligations under the Trade Contract Documents.

3.8.7 Prior to final payment, at the Owner's option and with the Trade Contractor's agreement, the Owner may elect to accept Defective Work rather than require its removal and correction. In such case the Contract Price shall be equitably adjusted for any diminution in the value of the Project caused by such Defective Work. Before the Owner accepts any such change it must be documented in writing with a Change Order signed by both the Trade Contractor and Owner.

3.9 CORRECTION OF COVERED TRADE CONTRACT WORK

3.9.1 On request of the Owner or Construction Manager, Trade Contract Work that has been covered without a requirement that it be inspected prior to being covered may be uncovered for the Owner's or Construction Manager's inspection. The Owner shall pay for the costs of uncovering and replacement if the Work proves to be in conformance with the Trade Contract Documents, or if the defective condition was caused by the Owner or Others. If the uncovered Trade Contract Work proves to be defective, the Trade Contractor shall pay the costs of uncovering and replacement.

3.9.2 If contrary to specific requirements in the Trade Contract Documents or contrary to a specific request from the Owner or Construction Manager, a portion of the Trade Contract Work is covered, the Owner or Construction Manager, by written request, may require the Trade Contractor to uncover the Trade Contract Work for the Owner's or Construction Manager's observation. In this circumstance the Trade Contract Work shall be uncovered and recovered at the Trade Contractor's expense and with no adjustment to the Trade Contract Time. Costs incurred by the Owner as a direct result of the above shall be deducted from the Trade Contract Price.

3.10 SAFETY OF PERSONS AND PROPERTY

3.10.1 SAFETY PRECAUTIONS AND PROGRAMS The Trade Contractor shall have overall responsibility for safety precautions and programs in the performance of the Trade Contract Work. While this section establishes the responsibility for safety between the Owner and Trade Contractor, it does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with the provisions of applicable laws and regulations.

3.10.2 The Trade Contractor shall seek to avoid injury, loss or damage to persons or property by taking reasonable steps to protect:

3.10.2.1 its employees and other persons at the Worksite;

3.10.2.2 materials and equipment stored at on-site or off-site locations for use in the Trade Contract Work; and

3.10.2.3 property located at the site and adjacent to Trade Contract Work areas, whether or not the property is part of the Trade Contract Work.

3.10.3 TRADE CONTRACTOR'S SAFETY REPRESENTATIVE The Trade Contractor's Worksite Safety Representative is who shall act as the Trade Contractor's authorized safety representative with a duty



to prevent accidents in accordance with subsection 3.10.2 If no individual is identified in this section, the authorized safety representative shall be the Trade Contractor's Representative. The Trade Contractor shall report immediately in writing to the Owner and Construction Manager all recordable accidents and injuries occurring at the Worksite. When the Trade Contractor is required to file an accident report with a public authority, the Trade Contractor shall furnish a copy of the report to the Owner and Construction Manager.

3.10.4 The Trade Contractor shall provide the Owner and Construction Manager with copies of all notices required of the Trade Contractor by law or regulation. The Trade Contractor's safety program shall comply with the requirements of governmental and quasi-governmental authorities having jurisdiction.

3.10.5 Damage or loss not insured under property insurance which may arise from the Trade Contract Work, to the extent caused by the negligent acts or omissions of the Trade Contractor, or anyone for whose acts the Trade Contractor may be liable, shall be promptly remedied by the Trade Contractor.

3.10.6 If the Owner or Construction Manager deems any part of the Trade Contract Work or Worksite unsafe, the Owner or Construction Manager, without assuming responsibility for the Trade Contractor's safety program, may require the Trade Contractor to stop performance of the Trade Contract Work or take corrective measures satisfactory to the Owner, or both. If the Trade Contractor does not adopt corrective measures, the Owner may perform them and deduct their cost from the Trade Contract Price. The Trade Contractor agrees to make no claim for damages, for an increase in the Trade Contract Price or for a change in the Trade Contract Time based on the Trade Contractor's compliance with the Owner's or Construction Manager's reasonable request.

3.11 EMERGENCIES

3.11.1 In an emergency, the Trade Contractor shall act in a reasonable manner to prevent personal injury or property damage. Any change in the Trade Contract Price or Trade Contract Time resulting from the actions of the Trade Contractor in an emergency situation shall be determined as provided in ARTICLE 8.

3.12 HAZARDOUS MATERIALS

3.12.1 The Trade Contractor shall not be obligated to commence or continue Trade Contract Work until any Hazardous Material discovered at the Worksite has been removed, rendered or determined to be harmless by the Owner as certified by an independent testing laboratory and approved by the appropriate government agency.

3.12.2 If after the commencement of the Trade Contract Work a Hazardous Material is discovered at the Worksite, the Trade Contractor shall be entitled to immediately stop Trade Contract Work in the affected area. The Trade Contractor shall report the condition to the Owner, the Construction Manager, and, if required, the government agency with jurisdiction.

3.12.3 The Trade Contractor shall not be required to perform any Trade Contract Work relating to or in the area of Hazardous Material without written mutual agreement.

3.12.4 The Owner shall be responsible for retaining an independent testing laboratory to determine the nature of the Hazardous Material encountered and whether the material requires corrective measures or remedial action. Such measures shall be the sole responsibility of the Owner, and shall be performed in a manner minimizing any adverse effects upon the Trade Contract Work. The Trade Contractor shall resume Trade Contract Work in the area affected by any Hazardous Material only upon written agreement between the Parties after the Hazardous Material has been removed or rendered harmless



and only after approval, if necessary, of the governmental agency with jurisdiction.

3.12.5 If the Trade Contractor incurs additional costs or is delayed due to the presence or remediation of Hazardous Material, the Trade Contractor shall be entitled to an equitable adjustment in the Trade Contract Price or the Trade Contract Time.

3.12.6 To the extent not caused by the negligent acts or omissions of the Trade Contractor, its Subcontractors and Sub-subcontractors, and the agents, officers, directors and employees of each of them, the Owner shall defend, indemnify and hold harmless the Trade Contractor, its Subcontractors and Sub-subcontractors, and the agents, officers, directors and employees of each of them, from and against any and all direct claims, damages, losses, costs and expenses, including but not limited to attorney's fees, costs and expenses incurred in connection with any dispute resolution process, to the extent permitted pursuant to section 6.6, arising out of or relating to the performance of the Trade Contract Work in any area affected by Hazardous Material. To the extent portions of this paragraph are in conflict with SF 396 (codified at Iowa Code Section 537A.5) said portions are void and unenforceable.

3.12.7 MATERIALS BROUGHT TO THE WORKSITE

3.12.7.1 Material Safety Data (MSD) sheets as required by law and pertaining to materials or substances used or consumed in the performance of the Trade Contract Work, whether obtained by the Trade Contractor, Subcontractors, the Owner or Others, shall be maintained at the Worksite by the Trade Contractor and made available to the Owner, Construction Manager, Subcontractors and Others.

3.12.7.2 The Trade Contractor shall be responsible for the proper delivery, handling, application, storage, removal and disposal of all materials and substances brought to the Worksite by the Trade Contractor in accordance with the Trade Contract Documents and used or consumed in the performance of the Trade Contract Work.

3.12.7.3 The Trade Contractor shall indemnify and hold harmless the Owner, Construction Manager, their agents, officers, directors and employees, from and against any and all claims, damages, losses, costs and expenses, including but not limited to attorney's fees, costs and expenses incurred in connection with any dispute resolution procedure, arising out of or relating to the delivery, handling, application, storage, removal and disposal of all materials and substances brought to the Worksite by the Trade Contractor in accordance or not in accordance with the Trade Contract Documents. To the extent portions of this paragraph are in conflict with SF 396 (codified at Iowa Code Section 537A.5) said portions are void and unenforceable.

3.12.8 The terms of this section shall survive the completion of the Trade Work or any termination of this Agreement.

3.13 SUBMITTALS

3.13.1 The Trade Contractor shall submit to the Construction Manager, and the Design Professional, for review and approval all shop drawings, samples, product data and similar submittals required by the Trade Contract Documents. Submittals may be submitted in electronic form if required in accordance with ConsensusDocs 200.2 and subsection 4.4.1. The Trade Contractor shall be responsible to the Owner for the accuracy and conformity of its submittals to the Trade Contract Documents. The Trade Contractor shall prepare and deliver its submittals in a manner consistent with the Construction Schedule and in such time and sequence so as not to delay the performance of the Trade Contract Work or the work of the Owner and Others. When the Trade Contractor delivers its submittals the Trade Contractor shall identify in writing for each submittal all changes, deviations or substitutions from the requirements of the Trade Contract Documents. The review and approval of any Trade Contractor



submittal shall not be deemed to authorize changes, deviations or substitutions from the requirements of the Trade Contract Documents unless express written approval is obtained from the Owner specifically authorizing such deviation, substitution or change. To the extent a change, deviation or substitution causes an impact to the Contract Price or Contract Time, such approval shall be promptly memorialized in a Change Order. Further, the Construction Manager and Design Professional shall not make any change, deviation or substitution through the submittal process without specifically identifying and authorizing such deviation to the Trade Contractor. In the event that the Trade Contract Documents do not contain submittal requirements pertaining to the Trade Contract Work, the Trade Contractor agrees upon request to submit in a timely fashion to the Construction Manager and the Design Professional for review and approval any shop drawings, samples, product data, manufacturers' literature or similar submittals as may reasonably be required by the Owner, Construction Manager, or Design Professional.

3.13.2 The Owner shall be responsible for review and approval of submittals with reasonable promptness to avoid causing delay.

3.13.3 The Trade Contractor shall perform all Trade Contract Work strictly in accordance with approved submittals. Approval of shop drawings is not authorization to Trade Contractor to perform Changed Work, unless the procedures of ARTICLE 8 are followed. Approval does not relieve the Trade Contractor from responsibility for Defective Work resulting from errors or omissions of any kind on the approved Shop Drawings.

3.13.4 Record copies of the following, incorporating field changes and selections made during construction, shall be maintained by the Trade Contractor at the Project site and available to the Owner upon request: drawings, specifications, addenda, Trade Contract Change Order and other modifications, and required submittals including product data, samples and shop drawings.

3.13.5 No substitutions shall be made in the Trade Contract Work unless permitted in the Trade Contract Documents and then only after the Trade Contractor obtains approvals required under the Trade Contract Documents for substitutions. All such substitutions shall be promptly memorialized in a Change Order no later than seven (7) Days following approval by the Owner and, if applicable, provide for an adjustment in the Contract Price or Contract Time.

3.13.6 The Trade Contractor shall prepare and submit to the Construction Manager for submission to the Owner

(Check one only)

- final marked up as-built drawings
- updated electronic data, in accordance with ConsensusDocs 200.2 and section 4.4.1
- such documentation as defined by the Parties by attachment to this Agreement,

in general documenting how the various elements of the Trade Contract Work were actually constructed or installed.

3.14 PROFESSIONAL SERVICES

3.14.1 The Trade Contractor may be required to procure professional services in order to carry out its responsibilities for construction means, methods, techniques, sequences and procedures for such services specifically called for by the Contract Documents. The Trade Contractor shall obtain these professional services and any design certifications required from State of Iowa licensed design professionals. All drawings, specifications, calculations, certifications and submittals prepared by such



design professionals shall bear the signature and seal of such design professionals and the Owner and the Design Professional shall be entitled to rely upon the adequacy, accuracy and completeness of such design services. If professional services are specifically required by the Contract Documents, the Owner shall indicate all required performance and design criteria. The Trade Contractor shall not be responsible for the adequacy of such performance and design criteria. The Trade Contractor shall not be required to provide such services in violation of existing laws, rules and regulations in the jurisdiction where the Project is located.

3.15 WORKSITE CONDITIONS

3.15.1 WORKSITE VISIT The Trade Contractor acknowledges that it has visited, or has had the opportunity to visit, the Worksite to visually inspect the general and local conditions which could affect the Trade Contract Work.

3.15.2 CONCEALED OR UNKNOWN SITE CONDITIONS If the conditions at the Worksite are (a) subsurface or other concealed physical conditions which are materially different from those indicated in the Trade Contract Documents, or (b) unusual and unknown physical conditions which are materially different from conditions ordinarily encountered and generally recognized as inherent in Trade Contract Work provided for in the Trade Contract Documents, the Trade Contractor shall stop Trade Contract Work and give immediate written notice of the condition to the Owner, Construction Manager and the Design Professional. The Trade Contractor shall not be required to perform any work relating to the unknown condition without the written mutual agreement of the Parties. Any change in the Contract Price or the Contract Time as a result of the unknown condition shall be determined as provided in this article. The Trade Contractor shall provide the Owner and the Construction Manager with written notice of any claim as a result of unknown conditions within the time period set forth in section 8.4.

3.16 PERMITS AND TAXES

3.16.1 Trade Contractor shall give public authorities all notices required by law and, except for permits and fees which are the responsibility of the Owner pursuant to section 4.2, shall obtain and pay for all necessary permits, licenses and renewals pertaining to the Trade Contract Work. Trade Contractor shall provide to Owner copies of all notices, permits, licenses and renewals required under this Agreement.

3.16.2 Trade Contractor shall pay all applicable taxes legally enacted when bids are received or negotiations concluded for the Trade Contract Work provided by the Trade Contractor.

3.16.3 The Contract Price or Contract Time shall be equitably adjusted by Trade Contract Change Order for additional costs resulting from any changes in laws, ordinances, rules and regulations enacted after the date of this Agreement, including increased taxes.

3.16.3 (Deleted)

3.17 CUTTING, FITTING AND PATCHING

3.17.1 The Trade Contractor shall perform cutting, fitting and patching necessary to coordinate the various parts of the Trade Contract Work and to prepare its Trade Contract Work for the work of the Owner or Others.

3.17.2 Cutting, patching or altering the work of the Owner or Others shall be done with the prior written approval of the Owner. Such approval shall not be unreasonably withheld.

3.18 CLEANING UP

3.18.1 The Trade Contractor shall regularly remove debris and waste materials at the Worksite resulting



from the Trade Contract Work. Prior to discontinuing Trade Contract Work in an area, the Trade Contractor shall clean the area and remove all rubbish and its construction equipment, tools, machinery, waste and surplus materials. The Trade Contractor shall minimize and confine dust and debris resulting from construction activities. At the completion of the Trade Contract Work, the Trade Contractor shall remove from the Worksite all construction equipment, tools, surplus materials, waste materials and debris.

3.18.2 If the Trade Contractor fails to commence compliance with cleanup duties within two (2) business Days after written notification from the Owner or the Construction Manager of noncompliance, the Owner may implement appropriate cleanup measures without further notice and the cost shall be deducted from any amounts due or to become due the Trade Contractor in the next payment period.

3.19 ACCESS TO TRADE CONTRACT WORK The Trade Contractor shall facilitate the access of the Owner, Construction Manager, Design Professional and Others to Trade Contract Work in progress.

3.20 COST MONITORING The Trade Contractor shall provide the Construction Manager with cost monitoring information appropriate for the manner of Trade Contractor's compensation, to enable the Construction Manager to develop and track construction and project budgets, including amounts for work in progress, uncompleted work and proposed changes.

3.21 ROYALTIES, PATENTS AND COPYRIGHTS The Trade Contractor shall pay all royalties and license fees which may be due on the inclusion of any patented or copyrighted materials, methods or systems selected by the Trade Contractor and incorporated in the Trade Contract Work. The Trade Contractor shall defend, indemnify and hold the Owner harmless from all suits or claims for infringement of any patent rights or copyrights arising out of such selection. The Owner agrees to indemnify and hold the Trade Contractor harmless from any suits or claims of infringement of any patent rights or copyrights arising out of any patented or copyrighted materials, methods or systems specified by the Owner, Construction Manager and Design Professional. To the extent portions of this paragraph are in conflict with SF 396 (codified at Iowa Code Section 537A.5) said portions are void and unenforceable.

3.22 CONFIDENTIALITY The Owner shall treat as confidential information all of the Trade Contractor's estimating systems and historical and parameter cost data that may be disclosed to the Owner in connection with the performance of this Agreement if they are specified and marked as confidential and shall mark them. If a document is not marked as "Confidential" it will not be treated as such. Nothing contained herein, however, shall be interpreted in a manner that modifies or is in conflict with the purpose and application of the open records laws contained in the Code of Iowa.

ARTICLE 4 OWNER'S RESPONSIBILITIES

4.1 INFORMATION SERVICES

4.1.1 FULL INFORMATION Any information or services to be provided by the Owner shall be provided in a timely manner so as not to delay the Trade Contract Work.

4.1.2 FINANCIAL INFORMATION Upon the written request of the Trade Contractor, the Owner shall provide the Trade Contractor with evidence of Project financing. If requested in writing, evidence of such financing shall be a condition precedent to the Trade Contractor's commencing or continuing the Trade Contract Work. The Trade Contractor shall be notified by the Owner prior to any material change in Project financing.

4.1.3 WORKSITE INFORMATION Except to the extent that the Trade Contractor knows of any inaccuracy, the Trade Contractor is entitled to rely on Worksite information furnished by the Owner pursuant to this subsection. To the extent the Owner has obtained, or is required elsewhere in the



Trade Contract Documents to obtain, the following Worksite information, the Owner shall provide at the Owner's expense and with reasonable promptness:

4.1.3.1 information describing the physical characteristics of the site, including surveys, site evaluations, legal descriptions, data or drawings depicting existing conditions, subsurface conditions and environmental studies, reports and investigations;

4.1.3.2 tests, inspections and other reports dealing with environmental matters, Hazardous Material and other existing conditions, including structural, mechanical and chemical tests, required by the Trade Contract Documents or by law; and

4.1.3.3 any other information or services requested in writing by the Trade Contractor which are relevant to the Trade Contractor's performance of the Trade Contract Work and under the Owner's control. The information required by subsection 4.1.3 shall be provided in reasonable detail. Legal descriptions shall include easements, title restrictions, boundaries, and zoning restrictions. Worksite descriptions shall include existing buildings and other construction and all other pertinent site conditions. Adjacent property descriptions shall include structures, streets, sidewalks, alleys, and other features relevant to the Trade Contract Work. Utility details shall include available services, lines at the Worksite and adjacent and connection points. The information shall include public and private information, subsurface information, grades, contours, and elevations, drainage data, exact locations and dimensions, and benchmarks that can be used by the Trade Contractor in laying out the Trade Contract Work. The Trade Contractor shall in writing request from the Owner any information identified in Paragraph 4.1.3 that the Trade Contractor believes the Owner has obtained but has not provided to the Trade Contractor.

4.1.3.4 OWNER'S REPRESENTATIVE The Owner's representative is test. The Owner's representative shall have authority to bind the Owner in all matters relating to this Agreement including, without limitation, all matters requiring the Owner's approval, authorization or written notice. If the Owner changes its representative as listed above, the Owner shall notify the Trade Contractor in advance in writing. The Owner's Representative is also authorized to resolve disputes in accordance with Section 12.2 of this Agreement. The Construction Manager, while unauthorized to modify the Agreement or settle a dispute without the Owner's approval, however, does have the requisite authority to act as the Owner's agent throughout the construction of the Project in accordance with the contract between the Owner and the Construction Manager (ConsensusDOCS 801 as modified by the State of Iowa).

4.2 BUILDING PERMIT, FEES AND APPROVALS Except for those permits and fees related to the Trade Contract Work which are the responsibility of the Trade Contractor pursuant to subsection 3.16.1, the Owner shall secure and pay for all other permits, approvals, easements, assessments and fees required for the development, construction, use or occupancy of permanent structures or for permanent changes in existing facilities, including the building permit.

4.3 Deleted

4.4 TRADE CONTRACT DOCUMENTS Unless otherwise specified, Owner shall provide One (1) copies of the Trade Contract Documents to the Trade Contractor without cost. Additional copies will be provided to the Trade Contractor at cost. This paragraph is not intended to be in conflict with Iowa Code Section 26.3 requirement that a sufficient number of copies of the contract documents be made available to bidders without charge (but a deposit not to exceed \$250 per set may be required). If the Trade Contractor was required to make a deposit for a set of Trade Contract Documents for purposes of bidding then the Trade Contractor may elect to have the deposit returned instead of being provided with an additional copy.



4.4.1 DIGITIZED DOCUMENTS If the Owner requires that the Owner, Design Professional, Construction Manager and Trade Contractor exchange documents and data in electronic or digital form, prior to any such exchange, the Owner, Design Professional, Construction Manager and Trade Contractor shall agree on a written protocol governing all exchanges in ConsensusDocs 200.2 or a separate Agreement, which, at a minimum, shall specify: (a) the definition of documents and data to be accepted in electronic or digital form or to be transmitted electronically or digitally; (b) management and coordination responsibilities; (c) necessary equipment, software and services; (d) acceptable formats, transmission methods and verification procedures; (e) methods for maintaining version control; (f) privacy and security requirements; and (g) storage and retrieval requirements. Except as otherwise agreed to by the Parties in writing, the Parties shall each bear their own costs as identified in the protocol. In the absence of a written protocol, use of documents and data in electronic or digital form shall be at the sole risk of the recipient.

4.5 OWNER'S CUTTING AND PATCHING Cutting, patching or altering the Trade Contract Work by the Owner or Others shall be done with the prior written approval of the Trade Contractor, which approval shall not be unreasonably withheld.

4.6 OWNER'S RIGHT TO CLEAN UP In case of a dispute between the Trade Contractor and Others with regard to respective responsibilities for cleaning up at the Worksite, the Owner may implement appropriate cleanup measures after two (2) business Days' notice and allocate the cost among those responsible during the following pay period.

4.7 COST OF CORRECTING DAMAGED OR DESTROYED WORK With regard to damage or loss attributable to the acts or omissions of the Owner or Others and not to the Trade Contractor, the Owner may either (a) promptly remedy the damage or loss or (b) accept the damage or loss. If the Trade Contractor incurs additional costs or is delayed due to such loss or damage, the Trade Contractor shall be entitled to an equitable adjustment in the Trade Contract Price or Trade Contract Time.

ARTICLE 5 SUBCONTRACTS

5.1 SUBCONTRACTORS The Trade Contract Work not performed by the Trade Contractor with its own forces shall be performed by Subcontractors.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE TRADE CONTRACT WORK

5.2.0 The Trade Contractor must identify all Subcontractors and suppliers within 48 hours of the published date and time for which bids must be submitted, in accordance with Iowa Code Section 8A.311, as amended by House File 646 in 2011. Subcontractors and suppliers may not be changed without the approval of the Owner. Requests for changing a Subcontractor or supplier must identify the reason for the proposed change, the name of the new Subcontractor or supplier, and the change in the subcontractor or supplier price as a result of the change. Any reduction in subcontractor or supplier price as a result of the change, if the change is approved by the Owner, shall be deducted from the Trade Contract Price via a deductive Change Order. Any such changes, if approved by the Owner, which result in an increase in the Trade Contract Price shall be borne by the Trade Contractor.

5.2.1 If the Owner has a reasonable objection to any proposed subcontractor or material supplier, the Owner shall notify the Trade Contractor in writing.

5.2.2 If the Owner has reasonably and promptly objected as provided in subsection 5.2.1, the Trade Contractor shall not contract with the proposed subcontractor or material supplier, and the Trade Contractor shall propose another Subcontractor acceptable to the Owner. To the extent the substitution results in an increase or decrease in the Trade Contract Price or Trade Contract Time, an appropriate



Trade Contract Change Order shall be issued as provided in ARTICLE 8.

5.3 BINDING OF SUBCONTRACTORS The Trade Contractor agrees to bind every Subcontractor (and require every Subcontractor to so bind its subcontractors) to all the provisions of this Agreement and the Trade Contract Documents as they apply to the Subcontractor's portion of the Trade Contract Work.

5.4 Deleted

5.5 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

5.5.1 If this Agreement is terminated, each subcontract agreement shall be assigned by the Trade Contractor to the Owner, subject to the prior rights of any surety, provided that:

5.5.1.1 this Agreement is terminated by the Owner pursuant to sections 11.3 or 11.4; and

5.5.1.2 the Owner accepts such assignment after termination by notifying the Subcontractor and Trade Contractor in writing, and assumes all rights and obligations of the Contractor pursuant to each subcontract agreement.

5.5.2 If the Owner accepts such an assignment, and the Work has been suspended for more than thirty (30) consecutive Days, following termination, if appropriate, the Subcontractor's compensation shall be equitably adjusted as a result of the suspension.

ARTICLE 6 TRADE CONTRACT TIME

6.1 PERFORMANCE OF THE TRADE CONTRACT WORK

6.1.1 DATE OF COMMENCEMENT The Date of Commencement is the date of Owner's written notice to proceed unless otherwise set forth below:

6.1.2 TIME Substantial Completion of the Trade Contract Work shall be achieved in xxx (xx) Days from the Date of Commencement. Unless otherwise specified in the Certificate of Substantial Completion, the Trade Contractor shall achieve Final Completion within 30 Days after the date of Substantial Completion, subject to adjustments as provided for in the Trade Contract Documents.

6.1.3 Time limits stated above are of the essence of this Agreement.

6.1.4 Unless instructed by the Owner in writing, the Trade Contractor shall not knowingly commence the Trade Contract Work before the effective date of insurance to be provided by the Trade Contractor and Owner as required by the Trade Contract Documents.

6.2 CONSTRUCTION SCHEDULE Prior to the commencement of the construction of the Trade Contract Work, the Trade Contractor shall submit a copy of its critical path method (CPM) construction schedule showing the completion of the Trade Contract Work within the allowable number of days identified above. The Trade Contractor shall regularly update its CPM construction schedule for the Trade Contract Work and promptly furnish the Construction Manager on an ongoing basis scheduling information requested by the Construction Manager for the Trade Contract Work. In consultation with the Trade Contractor, the Construction Manager shall incorporate the Trade Contract Work and work of other trade contractors into an overall Construction Schedule for the entire Project. The Trade Contractor shall be bound by the Construction. Nothing in this Trade Contractor Agreement shall relieve the Trade Contractor of any liability for any unexcused failure to comply with its original schedule, the Construction Schedule, or any completion dates. The Construction Manager shall have the right to coordinate the Trade Contractors, including the right, if necessary, to change the time, order and priority in which the various portions of the Trade Contract Work and the other work associated with the Project shall be performed.



6.3 DELAYS AND EXTENSIONS OF TIME

6.3.1 If the Trade Contractor is delayed at any time in the commencement or progress of the Work by any cause beyond the control of the Trade Contractor, the Trade Contractor shall be entitled to an equitable extension of the Trade Contract Time if the Trade Contractor is able to show that the critical path of the Trade Contract Work was delayed by causes beyond the control of the Trade Contractor. Examples of causes beyond the control of the Trade Contractor include, but are not limited to, the following: acts or omissions of the Owner, the Design Professional, Construction Manager or Others; changes in the Work or the sequencing of the Work ordered by the Owner, or arising from decisions of the Owner that impact the time of performance of the Work; transportation delays not reasonably foreseeable; labor disputes not involving the Trade Contractor; general labor disputes impacting the Project but not specifically related to the Worksite; fire; terrorism, epidemics, adverse governmental actions, unavoidable accidents or circumstances; adverse weather conditions not reasonably anticipated; encountering Hazardous Materials; concealed or unknown conditions; delay authorized by the Owner pending dispute resolution; and suspension by the Owner under section 11.1. The Trade Contractor shall submit any requests for equitable extensions of Contract Time in accordance with the provisions of ARTICLE 8.

6.3.2 In addition, if the Trade Contractor is able to show that it incurred additional costs because the critical path of the Trade Contract Work was delayed by acts or omissions of the Owner, the Design Professional, Construction Manager or Others, changes in the Work or the sequencing of the Work ordered by the Owner, or arising from decisions of the Owner that impact the time of performance of the Work, encountering Hazardous Materials, or concealed or unknown conditions, delay authorized by the Owner pending dispute resolution or suspension by the Owner under section 11.1, then the Trade Contractor shall be entitled to an equitable adjustment in the Trade Contract Price subject to section 6.6.

6.3.3 NOTICE OF DELAYS In the event delays to the Trade Contract Work are encountered for any reason, the Trade Contractor shall provide prompt written notice to the Owner and the Construction Manager of the cause of such delays after Trade Contractor first recognizes the delay. The Owner and Trade Contractor agree to undertake reasonable steps to mitigate the effect of such delays.

6.4 NOTICE OF DELAY CLAIMS If the Trade Contractor believes it is due an equitable extension of Trade Contract Time or an equitable adjustment in Trade Contract Price as a result of a delay described in subsection 6.3.1, the Trade Contractor shall give the Owner and the Construction Manager written notice of the claim in accordance with section 8.4. If the Trade Contractor causes delay in the completion of the Trade Contract Work, the Owner shall be entitled to recover its additional costs subject to subsection 6.6. The Owner shall process any such claim against the Trade Contractor in accordance with ARTICLE 8.

6.5 LIQUIDATED DAMAGES

6.5.1 SUBSTANTIAL COMPLETION The Owner and the Trade Contractor agree that this Agreement shall / shall not (indicate one) provide for the imposition of liquidated damages based on the Date of Substantial Completion.

6.5.1.1 The Trade Contractor understands that if the Date of Substantial Completion established by this Agreement, as may be amended by subsequent Trade Change Order, is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Trade Contractor agrees that if the Date of Substantial Completion is not attained the Trade Contractor shall pay the Owner Zero Dollars and No Cents (\$0.00) as liquidated damages and not as a penalty for each day that Substantial Completion extends beyond the Date of Substantial Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all



extra costs, losses, expenses, claims, penalties and any other damages of whatsoever nature incurred by the Owner which are occasioned by any delay in achieving the Date of Substantial Completion.

6.5.2 FINAL COMPLETION The Owner and the Trade Contractor agree that this Agreement shall / shall not (indicate one) provide for the imposition of liquidated damages based on the Date of Final Completion.

6.5.2.1 The Trade Contractor understands that if the Date of Final Completion established by this Agreement, as may be amended by subsequent Trade Change Order is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Trade Contractor agrees that if the Date of Final Completion is not attained the Trade Contractor shall pay the Owner Zero Dollars and No Cents (\$0.00) as liquidated damages and not as a penalty for each day that Final Completion extends beyond the Date of Final Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties and any other damages of whatsoever nature incurred by the Owner which are occasioned by any delay in achieving the Date of Final Completion.

6.5.3 OTHER LIQUIDATED DAMAGES The Owner and the Trade Contractor may agree upon the imposition of liquidated damages based on other project milestones or performance requirements. Such agreement shall be included as an exhibit to this Agreement.

6.6 LIMITED MUTUAL WAIVER OF CONSEQUENTIAL DAMAGES Except for damages mutually agreed upon by the Parties as liquidated damages in Section 6.5 and excluding losses covered by insurance required by the Trade Contract Documents, the Owner and the Trade Contractor agree to waive all claims against each other for any consequential damages that may arise out of or relate to this Agreement, except for those specific items of damages excluded from this waiver as mutually agreed upon by the Parties and identified below. The Owner agrees to waive damages including but not limited to the Owner's loss of use of the Project, any rental expenses incurred, loss of income, profit or financing related to the Project, as well as the loss of business, loss of financing, principal office overhead and expenses, loss of profits not related to this Project, loss of reputation, or insolvency. The Trade Contractor agrees to waive damages including but not limited to loss of business, loss of financing, principal office overhead and expenses, loss of profits not related to this Project, loss of bonding capacity, loss of reputation, or insolvency. The provisions of this section shall also apply to the termination of this Agreement and shall survive such termination.

6.6.1 The following items of damages are excluded from this mutual waiver: The provisions of this section shall also apply to the termination of this Agreement and shall survive such termination. The Owner and the Trade Contractor shall require similar waivers in contracts with Subcontractors and Others retained for the Project.

ARTICLE 7 TRADE CONTRACT PRICE

7.1 LUMP SUM As full compensation for performance by the Trade Contractor of the Work in conformance with the Contract Documents, the Owner shall pay the Trade Contractor the lump sum price of: XX dollars and XX cents (\$XX.XX). The lump sum price is hereinafter referred to as the Trade Contract Price, which shall be subject to increase or decrease as provided in article 8.

Lump Sum Price includes Base Bid of \$X.XX and Alternate #XX for {alternate description} for \$X.XX for a total Lump Sum Price of \$X.XX.

7.2 ALLOWANCES

7.2.1 All allowances stated in the Trade Contract Documents shall be included in the Trade Contract Price. The Owner shall select allowance items in a timely manner so as not to delay the Trade Contract



Work.

7.2.2 Allowances shall include the costs of materials, supplies and equipment delivered to the Worksite, less applicable trade discounts and including requisite taxes, unloading and handling at the Worksite, and labor and installation, unless specifically stated otherwise. The Trade Contractor's Overhead and profit for the allowances shall be included in the Trade Contract Price, but not in the allowances. The Trade Contract Price shall be adjusted by Trade Contract Change Order to reflect the actual costs when they are greater than or less than the allowances.

ARTICLE 8 CHANGES

Changes in the Trade Contract Work that are within the general scope of this Agreement shall be accomplished, without invalidating this Agreement, by Trade Contract Change Order, and Trade Contract Interim Directed Change.

8.1 TRADE CHANGE ORDER

8.1.1 The Owner may order or the Trade Contractor may request changes in the Trade Contract Work or the timing or sequencing of the Trade Contract Work that impacts the Trade Contract Price or the Trade Contract Time. All such changes in the Trade Contract Work that affect Trade Contract Time or Trade Contract Price shall in the form of a Trade Contract Change Order. Any such requests for a change in the Trade Contract Price or the Trade Contract Time shall be processed in accordance with this article 8. Trade Contract Change Orders shall be executed on the ConsensusDOCS 813 - Trade Contract Change Order (CM as Owner's Agent) with attachments as necessary.

8.1.2 The Owner, with the assistance of the Construction Manager, and the Trade Contractor shall negotiate in good faith an appropriate adjustment to the Trade Contract Price or the Trade Contract Time and shall conclude these negotiations as expeditiously as possible. Acceptance of the Trade Contract Change Order and any adjustment in the Trade Contract Price or Trade Contract Time shall not be unreasonably withheld.

8.2 TRADE CONTRACT INTERIM DIRECTED CHANGE

8.2.1 The Construction Manager may issue a written Trade Contract Interim Directed Change signed by the Owner directing a change in the Trade Contract Work prior to reaching agreement with the Trade Contractor on the adjustment, if any, in the Trade Contract Price or the Trade Contract Time.

8.2.2 The Owner, with the assistance of the Construction Manager, and the Trade Contractor shall negotiate expeditiously and in good faith for appropriate adjustments, as applicable, to the Trade Contract Price or the Trade Contract Time arising out of a Trade Contract Interim Directed Change. As the Trade Contract Changed Work is performed, the Trade Contractor shall submit its costs for such work with its application for payment beginning with the next application for payment within thirty (30) Days of the issuance of the Trade Contract Interim Directed Change. If there is a dispute as to the cost to the Owner, the Trade Contractor shall continue to perform the Trade Contract Changed Work set forth in the Trade Contract Interim Directed Change and the Owner shall pay the requirements Trade Contractor the Cost of the Work, defined in 8.3.1.3 below upon receipt of an application for payment and the Owner's (and the Architect's and construction manger's) determination that the work has been completed. The Parties reserve their rights as to the disputed amount, subject to the requirements ARTICLE 12.

8.2.3 When the Owner and the Trade Contractor agree upon the adjustment in the Trade Contract Price or the Trade Contract Time, for a change in the Trade Contract Work directed by a Trade Contract Interim Directed Change, such agreement shall be the subject of a Trade Contract Change Order. The



Trade Contract Change Order shall include all outstanding Trade Contract Interim Directed Changes on which the Owner and Trade Contractor have reached agreement on Contract Price or Contract Time issued since the last Trade Contract Change Order.

8.3 DETERMINATION OF COST

8.3.1 An increase or decrease in the Trade Contract Price or the Trade Contract Time resulting from a change in the Trade Contract Work shall be determined by one or more of the following methods:

8.3.1.1 unit prices set forth in this Agreement or as subsequently agreed;

8.3.1.2 a mutually accepted, itemized lump sum;

8.3.1.3 COST OF THE WORK Cost of the Work as defined by this subsection plus 10.0 % for Overhead and 5.0 % for profit. "Cost of the Work" shall include the following costs reasonably incurred to perform a change in the Work

8.3.1.3.1 wages paid for labor in the direct employ of the Constructor in the performance of the Work;

8.3.1.3.2 salaries of the Trade Contractor's employees when stationed at the field office to the extent necessary to complete the applicable Work, employees engaged on the road expediting the production or transportation of material and equipment, and supervisory employees from the principal or branch office performing the functions listed below;

8.3.1.3.3 cost of applicable employee benefits and taxes, including but not limited to, workers' compensation, unemployment compensation, social security, health, welfare, retirement and other fringe benefits as required by law, labor agreements, or paid under the Trade Contractor's standard personnel policy, insofar as such costs are paid to employees of the Trade Contractor who are included in the Cost of the Work in subsections .1 and .2 immediately above;

8.3.1.3.4 reasonable transportation, travel, and hotel expenses of the Trade Contractor's personnel incurred in connection with the Work;

8.3.1.3.5 cost of all materials, supplies, and equipment incorporated in the Work, including costs of inspection and testing if not provided by the Owner, transportation, storage, and handling;

8.3.1.3.6 payments made by the Trade Contractor to Subcontractors for Work performed under this Agreement;

8.3.1.3.7 cost, including transportation and maintenance of all materials, supplies, equipment, temporary facilities, and hand tools not owned by the workers that are used or consumed in the performance of the Work, less salvage value or residual value; and cost less salvage value of such items used, but not consumed that remain the property of the Trade Contractor;

8.3.1.3.8 rental charges of all necessary machinery and equipment, exclusive of hand tools owned by workers, used at the Worksite, whether rented from the Trade Contractor or Others, including installation, repair and replacement, dismantling, removal, maintenance, transportation, and delivery costs. Rental from unrelated third parties shall be reimbursed at actual cost. Rentals from the Trade Contractor or its affiliates, subsidiaries, or related parties shall be reimbursed at the prevailing rates in the locality of the Worksite up to eighty-five percent (85%) of the value of the piece of equipment;

8.3.1.3.9 cost of the premiums for all insurance and surety bonds which the Trade Contractor is



required to procure or deems necessary, and approved by the Owner including any additional premium incurred as a result of any increase in the cost of the Work;

8.3.1.3.10 sales, use, gross receipts or other taxes, tariffs, or duties related to the Work for which the Trade Contractor is liable;

8.3.1.3.11 permits, fees, licenses, tests, and royalties;

8.3.1.3.12 reproduction costs, photographs, facsimile transmissions, long-distance telephone calls, data processing costs and services, postage, express delivery charges, data transmission, telephone service, and computer-related costs at the Worksite to the extent such items are used and consumed in the performance of the Work or are not capable of use after completion of the Work;

8.3.1.3.13 all water, power, and fuel costs necessary for the Work;

8.3.1.3.14 cost of removal of all nonhazardous substances, debris, and waste materials;

8.3.1.3.15 all costs directly incurred to perform a change in the Work which are reasonably inferable from the Contract Documents for the Changed Work;

8.3.1.3.16 DISCOUNTS All discounts for prompt payment shall accrue to the Owner to the extent such payments are made directly by the Owner. To the extent payments are made with funds of the Constructor, all cash discounts shall accrue to the Constructor. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment, shall be credited to the Cost of the Work;

8.3.1.3.17 COST REPORTING The Trade Contractor shall maintain in conformance with generally accepted accounting principles a complete and current set of records that are prepared or used by the Trade Contractor to calculate the Cost of Work. The Owner and Construction Manager shall be afforded access to the Trade Contractor's records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda and similar data relating to requested payment for Cost of the Work. The Trade Contractor shall preserve all such records for a period of three years after the final payment or longer where required by law;

8.3.1.3.18 COST AND SCHEDULE ESTIMATES The Trade Contractor shall use reasonable skill and judgment in the preparation of a cost estimate or schedule for a change to the Work, but does not warrant or guarantee their accuracy

8.3.1.4 If an increase or decrease cannot be agreed to as set forth in Clauses .1 through .3 above, and the Owner or the Construction Manager issues a Trade Contract Interim Directed Change, the cost of the change in the Trade Contract Work shall be determined by the reasonable actual expense and savings of the performance of the Work resulting from the change. If there is a net increase in the Trade Contract Price, the Trade Contractor's Fee shall be adjusted accordingly. In case of a net decrease in the Trade Contract Price, the Trade Contractor's Fee shall not be adjusted unless ten percent (10%) or more of the Project is deleted. The Trade Contractor shall maintain a documented, itemized accounting evidencing the expenses and savings.

8.3.2 If unit prices are set forth in the Trade Contract Documents or are subsequently agreed to by the Parties, but the character or quantity of such unit items as originally contemplated is so different in a proposed Trade Change Order that the original unit prices will cause substantial inequity to the Owner or the Trade Contractor, such unit prices shall be equitably adjusted.

8.4 CLAIMS FOR ADDITIONAL COST OR TIME Except as provided in subsection 6.3.2 and section 6.4 for



any claim for an increase in the Trade Contract Price or the Trade Contract Time, the Trade Contractor shall give the Owner and the Construction Manager written notice of the claim within fourteen (14) Days after the occurrence giving rise to the claim or within fourteen (14) Days after the Trade Contractor first recognizes (or should have recognized) the condition giving rise to the claim, whichever is later. Except in an emergency, notice shall be given before proceeding with the Trade Contract Work. Thereafter, the Trade Contractor shall submit written documentation of its claim, including appropriate supporting documentation, within twenty-one (21) Days after giving notice, unless the Parties mutually agree upon a period of time. The Owner or Construction Manager shall respond in writing denying or approving the Trade Contractor's claim no later than fourteen (14) Days after receipt of the Trade Contractor's claim. Any change in the Trade Contract Price or the Trade Contract Time resulting from such claim shall be authorized by Trade Contract Change Order.

ARTICLE 9 PAYMENT

9.1 GENERAL PROVISIONS Within fourteen (14) calendar Days from the date of execution of this Agreement, the Trade Contractor shall prepare and submit to the Construction Manager for approval a Schedule of Values apportioned to the various divisions or phases of the Trade Contract Work. Each line item contained in the Schedule of Values shall be assigned a monetary price such that the total of all such items shall equal the Trade Contract Price. The Schedule of Values shall be prepared in such detail and be supported by such documents and proof as may be required by the Construction Manager.

9.2 PROGRESS PAYMENTS

9.2.1 APPLICATIONS The Trade Contractor shall submit to the Construction Manager monthly notarized applications for payment. Trade Contractor's applications for payment shall be itemized and supported by the Trade Contractor's Schedule of Values and any other substantiating data as required by this Trade Contractor Agreement or requested by the Construction Manager or Design Professional. Payment applications may include payment requests on account of properly authorized Trade Contract Change Orders and Interim Directed Changes. The progress payment application shall include Trade Contract Work performed through the preceding calendar month. The Construction Manager will review the application and recommend to the Design professional and the Owner amounts payable by the Owner to the Trade Contractor. The Owner, in accordance with the determination of the Design Professional, shall pay the amount otherwise due on any payment application, less any amounts as set forth below, no later than thirty (30) calendar Days after the payment application, or portion thereof, is approved the Design Professional. The Owner may deduct, from any progress payment, such amounts as may be retained pursuant to subsection 9.2.4 below.

9.2.2 STORED MATERIALS AND EQUIPMENT Unless otherwise provided in the contract documents, applications for payment may include materials and equipment not yet incorporated into the Work but delivered to and suitably stored onsite or offsite including applicable insurance, storage and costs incurred transporting the materials to an offsite storage facility. Approval of payment applications for stored materials and equipment stored offsite shall be conditioned on submission by the Trade Contractor of bills of sale and proof of required insurance, or such other procedures satisfactory to the Owner to establish the proper valuation of the stored materials and equipment, the Owner's title to such materials and equipment, and to otherwise protect the Owner's interests therein, including transportation to the site.

9.2.3 CLAIM WAIVERS

9.2.3.1 PARTIAL CLAIMWAIVERS AND AFFIDAVITS As a prerequisite for payment, the Trade Contractor shall provide, in a form satisfactory to the Owner and the Construction Manager, partial claim waivers in the amount of the application for payment and affidavits from the Trade Contractor, and its Subcontractors, Material Suppliers for the completed Trade Contract Work.



Such waivers shall be effective upon payment. In no event shall the Trade Contractor be required to sign an unconditional waiver of claim, either partial or final, prior to receiving payment or in an amount in excess of what it has been paid.

9.2.4 **RETAINAGE** From each progress payment made to the Trade Contractor has the Owner shall retain FIVE (5) percent of the amount otherwise due after deduction of any amounts as provided in section 9.3 and in no event shall such percentage exceed any applicable statutory requirements of this Agreement. Retainage shall be withheld and administered in accordance with Iowa Code Chapter 572:

9.3 **ADJUSTMENT OF TRADE CONTRACTOR'S PAYMENT APPLICATION** The Owner or the Construction Manager, upon notification of the Design Professional, may reject or adjust a Trade Contractor payment application or nullify a previously approved Trade Contractor payment application, in whole or in part, as may reasonably be necessary to protect the Owner from loss or damage based upon the following, to the extent that the Trade Contractor is responsible therefor under this Trade Contractor Agreement:

9.3.1 the Trade Contractor's repeated failure to perform the Trade Contract Work as required by the Trade Contractor Agreement;

9.3.2 loss or damage arising out of or relating to the Trade Contractor Agreement and caused by the Trade Contractor to the Owner, or to the Construction Manager or others to whom the Owner may be liable;

9.3.3 the Trade Contractor's failure to properly pay for labor, materials, equipment or supplies furnished in connection with the Trade Contract Work;

9.3.4 nonconforming or defective Trade Contract Work which has not been corrected in a timely fashion;

9.3.5 reasonable evidence of delay in performance of the Trade Contract Work such that the work will not be completed within the Trade Contract Time, and that the unpaid balance of the Trade Contract Price is not sufficient to offset any liquidated damages or actual damages that may be sustained by the Owner as a result of the anticipated delay caused by the Trade Contractor;

9.3.6 reasonable evidence demonstrating that the unpaid balance of the Trade Contract Price is insufficient to cover the cost to complete the Trade Contract Work; and

9.3.7 third-party claims involving the Trade Contractor or reasonable evidence demonstrating that third-party claims are likely to be filed unless and until the Trade Contractor furnishes the Owner with adequate security in the form of a surety bond, letter of credit or other collateral or commitment which are sufficient to discharge such claims if established. No later than thirty (30) Days after receipt of an application for payment, the Owner or Construction Manager shall give written notice to the Trade Contractor, disapproving or nullifying it or a portion thereof, specifying the reasons for the disapproval or nullification. When the above reasons for disapproving or nullifying an application for payment are removed, payment will be made for amounts previously withheld.

9.4 **PAYMENT NOT ACCEPTANCE** Payment to the Trade Contractor does not constitute or imply acceptance of any portion of the Trade Contract Work.

9.5 **PAYMENT DELAY** If for any reason not the fault of the Trade Contractor, the Trade Contractor does not receive a progress payment from the Owner sixty (60) calendar Days after the time such payment is due, as defined in Subparagraph 9.2.1, then the Trade Contractor, upon giving within seven (7) calendar Days after written notice to the Owner, and without prejudice to and in addition to any other legal remedies, may stop its Trade Contract Work until payment of the full amount owing to the Trade Contractor has been received. The



Trade Contract Price and Trade Contract Time shall be equitably adjusted by a Trade Contract Change Order to reflect reasonable cost and delay resulting from shutdown, delay and start-up.

9.6 SUBSTANTIAL COMPLETION

9.6.1 The Trade Contractor shall notify the Owner, the Construction Manager and the Design Professional when it considers Substantial Completion of the Trade Contract Work or a designated portion to have been achieved. The Construction Manager and the Design Professional shall promptly conduct an inspection to determine whether the Trade Contract Work or designated portion can be occupied or utilized for its intended use by the Owner without excessive interference in completing any remaining unfinished Trade Contract Work by the Trade Contractor. If the Construction Manager and the Design Professional determine that the Trade Contract Work or designated portion has not reached Substantial Completion, the Design Professional, and the Construction Manager, shall promptly compile a list of items to be completed or corrected so the Owner may occupy or utilize the Trade Contract Work or designated portion for its intended use. The Trade Contractor shall promptly complete all items on the list.

9.6.2 When Substantial Completion of the Trade Contract Work or a designated portion is achieved, the Construction Manager and the Design Professional shall prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, and the respective responsibilities of the Owner and Trade Contractor for interim items such as security, maintenance, utilities, insurance and damage to the Trade Contract Work. The Owner shall assume all responsibilities for items such as security, maintenance, utilities, and insurance, and damage to the Work. The certificate shall also list the items to be completed or corrected, and establish the time for their completion or correction. The Certificate of Substantial Completion shall be submitted to the Trade Contractor for written acceptance of responsibilities assigned in the Certificate.

9.6.3 Unless otherwise provided in the Certificate of Substantial Completion, warranties required by the Trade Contract Documents shall commence on the date of Substantial Completion of the Trade Contract Work or a designated portion.

9.6.4 Uncompleted items shall be completed by the Trade Contractor by the Final Completion date set forth in the Agreement and/or Construction Schedule. The Trade Contractor may request early release of retainage in accordance with Iowa Code Section 26.13. Payment for completed work and retainage shall be made in accordance with Iowa Code Chapters 26 and 573.

9.7 PARTIAL OCCUPANCY OR USE The Owner may occupy or use completed or partially completed portions of the Trade Contract Work when (a) the portion of the Trade Contract Work is designated in a Certificate of Substantial Completion, (b) appropriate insurer(s) consent to the occupancy or use, and (c) appropriate public authorities authorize the occupancy or use. Such partial occupancy or use shall constitute Substantial Completion of that portion of the Trade Contract Work.

9.8 FINAL PAYMENT

9.8.1 APPLICATION Upon acceptance of the Trade Contract Work by the Construction Manager, and approval by the Design Professional, and upon the Trade Contractor furnishing evidence of fulfillment of the Trade Contractor's obligations in accordance with the Trade Contract Documents, the Trade Contractor shall submit its application for final payment. The Construction Manager will review the Trade Contractor's final payment application and recommend to the Design Professional and the Owner an amount payable by the Owner to the Trade Contractor. The Design Professional shall then recommend an amount to be paid by the Owner. Final payment shall be made in accordance with Iowa Code Chapters 26 and 573.



9.8.2 REQUIREMENTS Along with its application for final payment, the Trade Contractor shall furnish to the Construction Manager:

9.8.2.1 an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Trade Contract Work for which the Owner or its property or the Construction Manager or the Owner's surety might in any way be liable, have been paid or otherwise satisfied;

9.8.2.2 consent of the Trade Contractor's surety to final payment;

9.8.2.3 satisfaction of closeout procedures as may be required by the Trade Contractor Agreement;

9.8.2.4 certification (or other writing indicating) that insurance required by the Trade Contractor Agreement is and will remain effect beyond final payment pursuant to this Trade Contractor Agreement and

9.8.2.5 other data if required by the Owner or Construction Manager, such as receipts, releases, and waivers of liens effective upon payment to the extent and in such form as may be designated by the Owner or Construction Manager. Acceptance of final payment by the Trade Contractor shall constitute a waiver of all claims by the Trade Contractor except those previously made in writing and identified by the Trade Contractor as unsettled at the time of final application for payment.

9.8.3 TIME OF PAYMENT Final payment of the balance of the Trade Contract Price, less any amount retained pursuant to subsection 9.2.4 of this Agreement, and as required by Iowa Code Chapters 26 and 573, which among other things requires that twice the amount of an Iowa Code Chapter 573 subcontractor claim be withheld from final payment, shall be made to the Trade contractor within sixty (60) Days after the Trade Contractor has submitted a complete and accurate application for final payment.

9.8.4 LATE PAYMENT INTEREST Progress payments or final payment due and unpaid under this Trade Contractor Agreement shall bear interest from the date payment is due at the statutory rate prevailing at the place of the Project.

9.9 PAYMENT USE AND VERIFICATION The Trade Contractor is required to pay for all labor, materials and equipment used in the performance of the Trade Contract Work through the most current period applicable to progress payments received. Reasonable evidence, satisfactory to the Construction Manager, may be required to show that all obligations relating to the Trade Contract Work are current before releasing any payment due on the Trade Contract Work. If required by the Construction Manager, before final payment is made for the Trade Contract Work, the Trade Contractor shall submit evidence satisfactory to the Construction Manager that all payrolls, bills for materials and equipment, and all known indebtedness connected with the Trade Contract Work, have been paid or otherwise satisfied as set forth in subsection 9.8.2.

ARTICLE 10 INDEMNITY, INSURANCE, WAIVERS AND BONDS

10.1 INDEMNITY

10.1A To the extent portions of this Article are in conflict with SF 396 (codified at Iowa Code Section 573A.5) said portions are void and unenforceable.

10.1.1 TRADE CONTRACTOR'S INDEMNITY To the fullest extent permitted by law, the Trade Contractor shall indemnify and hold harmless the Owner, the Owner's officers, directors, members,



consultants, agents and employees, from all claims for bodily injury and property damage, other than to the Work itself and other property insured under subsection 10.3.1, including reasonable attorneys' fees, costs and expenses, that may arise from the performance of the Work, but only to the extent caused by the negligent acts or omissions of the Trade Contractor, Subcontractors or anyone employed directly or indirectly by any of them or by anyone for whose acts any of them may be liable. The Trade Contractor shall be entitled to reimbursement of any defense costs paid above the Trade Contractor's percentage of liability for the underlying claim to the extent provided for under subsection 10.1.2.

10.1.2 OWNER'S INDEMNITY To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Trade Contractor, its officers, directors, members, consultants, agents, and employees, from all claims for bodily injury and property damage, other than property insured under subsection 10.3.1, including reasonable attorneys' fees, costs and expenses, that may arise from the performance of work by Owner, Design Professional or Others, but only to the extent caused by the negligent acts or omissions of the Owner, Design Professional or Others. The Owner shall be entitled to reimbursement of any defense costs paid above Owner's percentage of liability for the underlying claim to the extent provided for under subsection 10.1.1.

10.1.3 CONSTRUCTION MANAGER AND DESIGN PROFESSIONAL INDEMNITY The Owner shall cause the Construction Manager and the Design Professional to agree to indemnify and hold harmless the Owner from all claims for bodily injury and property damage, other than to the Work itself and other property insured under section 10.3, that may arise from the Construction Manager's or the Design Professional's services, but only to the extent that such claims result from the negligent acts or omissions of the Construction Manager or the Design Professional, respectively, or anyone for whose acts or omissions the Construction Manager or Design Professional, respectively, is liable. Such provisions shall be in a form no less protective of the Parties than the Construction Manager's Indemnity provided in ConsensusDocs 801 (2011) or the Design Professional's indemnity provided in ConsensusDocs 803 (2011) respectively, and shall be reasonably satisfactory to the Owner and the Trade Contractor.

10.1.4 ADJACENT PROPERTY INDEMNIFICATION To the extent of the limits of Trade Contractor's Commercial General Liability Insurance specified in subsection 10.2.1 or Zero Dollars and No Cents (\$0.00) whichever is more, the Trade Contractor shall indemnify and hold harmless the Owner against any and all liability, claims, demands, damages, losses and expenses, including attorney's fees, in connection with or arising out of any damage or alleged damage to any of Owner's existing adjacent property that may arise from the performance of the Trade Contract Work, but only to the extent of the negligent acts or omissions of the Trade Contractor, Subcontractor or anyone employed directly or indirectly by any of them or by anyone for whose acts any of them may be liable.

10.1.5 NO LIMITATION ON LIABILITY In any and all claims against the Indemnitees by any employee of the Trade Contractor, anyone directly or indirectly employed by the Trade Contractor or anyone for whose acts the Trade Contractor may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Trade Contractor under Workers' Compensation acts, disability benefit acts or other employment benefit acts.

10.2 TRADE CONTRACTOR'S INSURANCE

10.2.1 Prior to the start of the Work, the Trade Contractor shall procure and maintain in force Workers Compensation/Employers' Liability Insurance, Business Automobile Liability Insurance, and Commercial General Liability Insurance (CGL). The CGL policy shall include coverage for liability arising from premises, operations, independent contractors, products-completed operations, personal injury and



advertising injury, contractual liability, and broad form property damage. The Trade Contractor's liability policies, as required in this Subparagraph 10.2.1, shall be written on an occurrence basis with at least the following limits of liability:

10.2.1.1 Workers' Compensation- amount required by the laws of Iowa

10.2.1.2 Employers' Liability Insurance - \$500,000 or an amount required by Iowa law, whichever is greater.

10.2.1.3 Business Automobile Liability Insurance

a. \$1,000,000 Each Accident

10.2.1.4 Commercial General Liability Insurance

a. \$1,000,000 Each Occurrence b. \$2,000,000 General Aggregate c. \$1,000,000 Products/Completed Operations Aggregate d. \$1,000,000 Personal and Advertising Injury Limit

10.2.2 The Trade Contractor Must also carry and maintain Excess or Umbrella Liability coverage for the policies in subsection 10.2.1 in the amounts as listed below:

Trade Contractor Contract Amount: <\$1,000,000 - \$2 Million Umbrella or more \$1,000,000 - \$5,000,000 - \$5 Million Umbrella or more >\$5,000,000 - \$10 Million Umbrella or more

10.2.3 The Trade Contractor shall maintain in effect all insurance coverage required under subsection 10.2.1 with insurance companies lawfully authorized to do business in Iowa. Such insurance companies shall have a minimum A.M. Best Rating of A-VI (Consult instructions and insurance advisor). If the Trade Contractor fails to obtain or maintain any insurance coverage required under this Agreement, the Owner may purchase such coverage and charge the expense to the Trade Contractor, or terminate this Agreement.

10.2.4 To the extent commercially available, the policies of insurance required under Subparagraph 10.2.1 shall contain a provision that the insurance company or its designee must give the Owner written notice transmitted in paper or electronic format: (a) 30 days before coverage is nonrenewed by the insurance company and (b) with 10 business days after cancelation of coverage by the insurance company. The Trade Contractor shall maintain completed operations liability insurance for one year after acceptance of the Contract Documents, whichever is longer. Prior to commencement of services, the Trade Contractor shall furnish the Owner with certificates evidencing the required coverages. In addition, if any insurance policy required under subsection 10.2.1 is not to be immediately replaced without a lapse in coverage when it expires, exhausts its limits, or is to be, cancelled, the Trade Contractor shall give Owner prompt written notice upon actual or constructive knowledge of such condition.

10.2.5 ADDITIONAL LIABILITY COVERAGE

10.2.5.1 The Owner shall / shall not (indicate one) require the Trade Contractor to purchase and maintain liability coverage, primary to the Owner's coverage under subsection 10.3.1.

10.2.5.2 If required by subsection 10.2.5.1, the additional liability coverage required of the Trade Contractor shall be:

1. Additional Insured Owner shall be named as an additional insured on Trade Contractor's Commercial General Liability Insurance specified for operations and completed operations,



but only with respect to liability for bodily injury, property damage or personal and advertising injury to the extent caused by the negligent acts or omissions of Trade Contractor, or those acting on Trade Contractor's behalf, in the performance of Trade Contractor's Work for.

2. OCP Trade Contractor shall provide an Owners' and Contractors' Protective Liability Insurance ("OCP") policy with limits equal to the limits on Commercial General Liability Insurance specified or limits as otherwise required by Owner.

Any documented additional cost in the form of a surcharge associated with procuring the additional liability coverage in accordance with this subsection shall be paid by the Owner directly or the costs may be reimbursed by the Owner to the Trade Contractor by increasing the Trade Contract Price to correspond to the actual cost required to purchase and maintain the additional liability coverage. Prior to commencement of the Work, the Trade Contractor shall obtain and furnish to the Owner a certificate evidencing that the additional liability coverages have been procured.

10.2.6 PROFESSIONAL LIABILITY INSURANCE To the extent the Trade Contractor is required to procure design services under this Agreement, in accordance with section 3.14, the Trade Contractor shall require the designers to obtain professional liability insurance for claims arising from the negligent performance of professional services under this Agreement, with a company reasonably satisfactory to the Owner, including coverage for all professional liability caused by any of the Designer's(s') consultants, written for not less than \$1,000,000 per claim and in the aggregate with the deductible not to exceed \$2,000,000. The deductible shall be paid by the Designer.

10.3 OWNER'S INSURANCE

10.3.1 Deleted.

10.3.2 Deleted.

10.4 PROPERTY INSURANCE

10.4.1 Before the start of Trade Contract Work, the Owner shall obtain and maintain Builder's Risk Policy insurance with minimum coverage limits equal to the full cost of replacement of the Project at the time of loss. This insurance shall also name the Trade Contractor, Subcontractors, Material Suppliers, Construction Manager and Design Professional as insureds. This insurance shall be written as a Builder's Risk Policy or equivalent form to cover all risks of physical loss except those specifically excluded by the policy, and shall insure at least against the perils of fire, lightning, explosion, windstorm, hail, smoke, aircraft and vehicles, riot and civil commotion, theft, vandalism, malicious mischief, debris removal, flood (subject to sublimits), earthquake (subject to sublimits), earth movement, water damage, wind damage, testing if applicable, collapse however caused, and shall include coverage for, material, or equipment stored offsite, onsite or in transit. This policy shall provide for a waiver of subrogation in favor of the Trade Contractor, Subcontractors, Material Suppliers, Construction Manager and Design Professional. This insurance shall remain in effect until the Substantial Completion of the Work, final payment has been made or until no person or entity other than the Owner has an insurable interest in the property to be covered by this insurance, whichever is sooner. Partial occupancy or use of the Work shall not commence until the Owner has secured the consent of the insurance company or companies providing the coverage required in this Subparagraph 10.4.1.

10.4.2 If the Owner does not intend to purchase the property insurance required by this Agreement, including all of the coverages and deductibles described herein, the Owner shall give written notice to the Trade Contractor, the Design Professional and the Construction Manager before the Trade Contract



Work is commenced. The Trade Contractor may then provide insurance to protect its interests and the interests of the Subcontractors, including the coverage of deductibles. The cost of this insurance shall be charged to the Owner in a Change Order. The Owner shall be responsible for all of Trade Contractor's costs reasonably attributed to the Owner's failure or neglect in purchasing or maintaining the coverage described above.

10.4.2.1 The Owner will not obtain insurance to cover the risk of physical loss resulting from Terrorism. The Construction Manager is not required to purchase this type of insurance but may purchase this type of insurance if it chooses. If purchased, the cost of this insurance shall be borne by the Construction manager.

10.4.3 POLICIES The Owner shall provide the Trade Contractor with a copy of all policies including all endorsements upon request.

10.5 PROPERTY INSURANCE LOSS ADJUSTMENT

10.5.1 LOSS ADJUSTMENT Any insured loss shall be adjusted with the Owner and the Trade Contractor and made payable to the Owner as trustee for the insureds, as their interests may appear.

10.5.2 DISTRIBUTION OF PROCEEDS Following the occurrence of an insured loss, monies received will be deposited in a separate account and the trustee shall make distribution in accordance with the agreement of the Parties in interest.

10.6 WAIVERS

10.6.1 PROPERTY DAMAGE The Owner and Trade Contractor waive all claims and other rights they may have against each other for loss of or damage to (a) the Project, (b) all materials, machinery, equipment and other items used in accomplishing the Trade Contract Work or services or to be incorporated into the Project, while the same are in transit, at the Project Site, during erection and otherwise, and (c) all property owned by or in the custody of Owner and its affiliates, however such loss or damage shall occur, to the extent such damage is covered by property insurance. The proceeds of such insurance shall be held by the Owner as trustee.

10.6.2 WAIVER OF SUBROGATION The Owner shall have its insurers waive all rights of subrogation they may have against the Construction Manager, Design Professional, Trade Contractors, and their Subcontractors and Material Suppliers on all policies carried by the Owner on the Project and adjacent properties, including, after final payment, those policies to be provided on the completed Project not intended to insure the Project during construction.

10.6.3 ENDORSEMENT If the policies of insurance referred to in this section require an endorsement to provide for continued coverage where there is a waiver of subrogation, the Owner will cause them to be so endorsed.

10.7 RISK OF LOSS Except to the extent a loss is covered by property insurance, carried by the owner, risk of loss or damage to the Work shall be upon the Trade Contractor until the Date of Final Completion, unless otherwise agreed to by the Parties.

10.8 BONDS Performance and Payment Bonds

are

are not

required of the Trade Contractor that meet the requirements of Iowa Code Chapter 573. A deposit in lieu of a



bond may be acceptable if it meets the requirements of Iowa Code Section 573.4. Such bonds shall be issued by a surety admitted in the State in which the Project is located and must be acceptable to the Owner. The Owner's acceptance shall not be withheld without reasonable cause. The penal sum of the Payment Bond and of the Performance Bond shall each be one hundred percent (100%) of the original Contract Price. Any increase in the Contract Price that exceeds ten percent (10%) in the aggregate shall require a rider to the Bonds increasing penal sums accordingly. Up to such ten percent (10%) amount, the penal sum of the Bond shall remain equal to one hundred percent (100%) of the Contract Price. The Trade Contractor shall endeavor to keep its surety advised of changes potentially impacting the Contract Time and Contract Price, though the Trade Contractor shall require that its surety waives any requirement to be notified of any alteration or extension of time. The Trade Contractor's Payment Bond for the Project, if any, shall be made available by the Owner for review and copying by the Subcontractor. Iowa Code Chapter 573 shall control and take precedence over any conflicting term or condition in this Agreement

ARTICLE 11 SUSPENSION, NOTICE TO CURE AND TERMINATION OF AGREEMENT

11.1 SUSPENSION BY OWNER FOR CONVENIENCE

11.1.1 OWNER SUSPENSION Should the Owner order the Trade Contractor in writing to suspend, delay, or interrupt the performance of the Trade Contract Work for such period of time as may be determined to be appropriate for the convenience of the Owner and not due to any act or omission of the Trade Contractor or any person or entity for whose acts or omissions the Trade Contractor may be liable, then the Trade Contractor shall immediately suspend, delay or interrupt that portion of the Trade Contract Work as ordered by the Owner. The Trade Contract Price and the Trade Contract Time shall be equitably adjusted by Trade Contract Change Order for the cost and delay resulting from any such suspension.

11.1.2 Any action taken by the Owner that is permitted by any other provision of the Trade Contract Documents and that results in a suspension of part or all of the Trade Contract Work does not constitute a suspension of Trade Contract Work under this section.

11.2 NOTICE TO CURE A DEFAULT If the Trade Contractor persistently refuses or fails to supply enough properly skilled workers, proper materials, or equipment to maintain the approved Construction Schedule in accordance with ARTICLE 6, or fails to make prompt payment to its workers, Subcontractors or Material Suppliers; disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction; or is otherwise guilty of a material breach of a provision of this Agreement, the Trade Contractor may be deemed in default. If the Trade Contractor fails within seven (7) business Days after receipt of written notification to commence and continue satisfactory correction of such default with diligence and promptness, then the Owner shall give the Trade Contractor a second notice to correct the default within a three (3) Day period. If the Trade Contractor fails to promptly commence and continue satisfactory correction of the default following receipt of such second notice, the Owner without prejudice to any other rights or remedies may:

11.2.1 supply workers and materials, equipment and other facilities as the Owner or Construction Manager deems necessary for the satisfactory correction of the default, and charge the cost to the Trade Contractor, who shall be liable for the payment of same including reasonable Overhead, profit and attorneys' fees;

11.2.2 contract with Others to perform such part of the Trade Contract Work as the Owner or Construction Manager determines shall provide the most expeditious correction of the default, and charge the cost to the Trade Contractor;

11.2.3 withhold payment due the Trade Contractor in accordance with section 9.3; and

11.2.4 in the event of an emergency affecting the safety of persons or property, immediately commence



and continue satisfactory correction of such default as provided in subsections 11.2.1 and 11.2.2 without first giving written notice to the Trade Contractor, but shall give prompt written notice of such action to the Trade Contractor following commencement of the action.

11.3 OWNER'S RIGHT TO TERMINATE FOR DEFAULT

11.3.1 TERMINATION BY OWNER FOR DEFAULT If, within seven (7) Days of receipt of a notice to cure pursuant to section 11.2, the Trade Contractor fails to commence and satisfactorily continue correction of the default set forth in the notice to cure, the Owner may notify the Trade Contractor that it intends to terminate this Agreement for default absent appropriate corrective action within fourteen additional Days. After the expiration of the additional fourteen (14) Day period, the Owner may terminate this Agreement by written notice absent appropriate corrective action. Termination for default is in addition to any other remedies available to Owner under section 11.2. If the Owner's cost arising out of the Trade Contractor's failure to cure, including the cost of completing the Trade Contract Work and reasonable attorneys' fees, exceeds the unpaid Trade Contract Price, the Trade Contractor shall be liable to the Owner for such excess costs. If the Owner's costs are less than the unpaid Trade Contract Price, the Owner shall pay the difference to the Trade Contractor. In the event the Owner exercises its rights under this section, upon the request of the Trade Contractor the Owner shall furnish to the Trade Contractor a detailed accounting of the cost incurred by the Owner.

11.3.2 USE OF TRADE CONTRACTOR'S MATERIALS, SUPPLIES AND EQUIPMENT If the Owner or Others perform work under this section, the Owner shall have the right to take and use any materials, supplies and equipment belonging to the Trade Contractor and located at the Worksite for the purpose of completing any remaining Trade Contract Work. Immediately upon completion of the Work, any remaining materials, supplies or equipment not consumed or incorporated in the Trade Contract Work shall be returned to the Trade Contractor in substantially the same condition as when they were taken, reasonable wear and tear excepted.

11.3.3 If the Trade Contractor files a petition under the Bankruptcy Code, this Agreement may be terminated for cause at the may be terminated for cause at the Owner.

11.3.3 If the Trade Contractor files a petition under the Bankruptcy Code, this Agreement may be terminated for cause at the may be terminated for cause at the Owner.

11.3.4 The Owner shall make reasonable efforts to mitigate damages arising from Trade Contractor default, and shall promptly invoice the Trade Contractor for all amounts due pursuant to sections 11.2 and 11.3.

11.4 TERMINATION BY OWNER FOR CONVENIENCE

11.4.1 Upon written notice to the Trade Contractor, the Owner may, without cause, terminate this Agreement. The Trade Contractor shall immediately stop the Work, follow the Owner's or Construction Manager's instructions regarding shutdown and termination procedures, and strive to minimize any further costs.

11.4.2 If the Owner terminates this Agreement pursuant to this section, the Trade Contractor shall be paid:

11.4.2.1 for the Work performed to date including Overhead and profit; and

11.4.2.2 for all demobilization costs and costs incurred as a result of the termination but not including Overhead or profit on work not performed;

11.4.2A Upon written notice to the Trade Contractor the Owner has the right to terminate this



Agreement without penalty as a result of the following: 1) the legislature or governor fail to appropriate funds sufficient to allow the Owner to operate as required and fulfill its obligations under this Agreement, 2) funds are de-appropriated or not allocated, 3) the Owner's authorization to operate is withdrawn or there is a material alteration in the programs administered by the owner, or 4) the Owner's duties are substantially modified. If such a termination results then the Trade Contractor shall be paid in the manner set forth in subparagraph 11.4.2. If, however, an appropriation to cover the cost of this Agreement becomes available within sixty (60) days subsequent to termination under this paragraph then the Owner agrees to re-enter into a modified version of this Agreement that accounts for the termination and reinstatement.

11.4.3 If the Owner terminates this Agreement pursuant to sections 11.3 or 11.4, the Trade Contractor shall:

11.4.3 If the Owner terminates this Agreement pursuant to sections 11.3 or 11.4, the Trade Contractor shall:

11.4.3.1 execute and deliver to the Owner all papers and take all action required to assign, transfer and vest in the Owner the rights of the Trade Contractor to all materials, supplies and equipment for which payment has or will be made in accordance with the Trade Contract Documents and all subcontracts, orders and commitments which have been made in accordance with the Trade Contract Documents;

11.4.3.2 exert reasonable effort to reduce to a minimum the Owner's liability for subcontracts, orders and commitments that have not been fulfilled at the time of the termination;

11.4.3.3 cancel any subcontracts, orders and commitments as the Owner or Construction Manager directs; and

11.4.3.4 sell at prices approved by the Owner or Construction Manager any materials, supplies and equipment as the Owner or Construction Manager directs, with all proceeds paid or credited to the Owner.

11.5 TRADE CONTRACTOR'S RIGHT TO TERMINATE

11.5.1 Upon seven (7) Days' written notice to the Owner and Construction Manager, the Trade Contractor may terminate this Agreement if the Trade Contract Work has been stopped for a thirty (30) Day period through no fault of the Trade Contractor for any of the following reasons:

11.5.1.1 under court order or order of other governmental authorities having jurisdiction;

11.5.1.2 as a result of the declaration of a national emergency or other governmental act during which, through no act or fault of the Trade Contractor, materials are not available; or

11.5.1.3 suspension by the Owner for convenience pursuant to section 11.1

11.5.2 In addition, upon seven (7) Days' written notice to the Owner and Construction Manager, the Trade Contractor may terminate the Agreement if the Owner:

11.5.2.1 fails to furnish reasonable evidence pursuant to section 4.1.2 that sufficient funds are available and committed for Project financing, or

11.5.2.2 assigns this Agreement over the Trade Contractor's reasonable objection, or

11.5.2.3 fails to pay the Trade Contractor in accordance with this Agreement and the Trade Contractor has complied with the notice provisions of section 9.5, or



11.5.2.4 otherwise materially breaches this Agreement.

11.5.3 Upon termination by the Trade Contractor in accordance with this section, the Trade Contractor shall be entitled to recover from the Owner payment for all Trade Contract Work executed and for any proven loss, cost or expense in connection with the Trade Contract Work, including all demobilization costs plus reasonable Overhead and profit on work not performed.

11.6 OBLIGATIONS ARISING BEFORE TERMINATION Even after termination pursuant to ARTICLE 11, the provisions of this Agreement still apply to any Trade Contract Work performed, payments made, events occurring, costs charged or incurred or obligations arising before the termination date.

ARTICLE 12 DISPUTE MITIGATION AND RESOLUTION

12.1 WORK CONTINUANCE AND PAYMENT Unless otherwise agreed in writing, the Trade Contractor shall continue the Trade Contract Work and maintain the Construction Schedule during any dispute mitigation or resolution proceedings. If the Trade Contractor continues to perform, the Owner shall continue to make payments in accordance with this Agreement.

12.2 DIRECT DISCUSSIONS If the Parties cannot reach resolution on a matter relating to or arising out of the Agreement, the Parties shall endeavor to reach resolution through good faith direct discussions between the Parties' representatives, who shall possess the necessary authority to resolve such matter and who shall record the date of first discussions. The authorized representative for the Trade Contractor is identified in Paragraph 3.4 of the Agreement. The authorized representative for the Owner is identified in Paragraph 4.2 of the Agreement. The parties' authorized representative are, among other things, authorized to resolve matters of disagreement and disputes between the Parties. If the dispute remains unresolved after fifteen (15) Days from the date of first discussion, the Parties shall submit such matter to the dispute mitigation and dispute resolution procedures selected herein.

12.3 MITIGATION The Parties agree that dispute mitigation procedures provided in this Project. Disputes remaining unresolved after direct discussions shall be directed to the selected mitigation procedure immediately below. The dispute mitigation procedure shall result in nonbinding finding on the matter. This may be introduced as evidence at a subsequent binding adjudication of the matter, as designee on Paragraph 12.5. The Parties agree that the dispute mitigation procedure shall be

(Designate only one.)

Project Neutral

Dispute Review Board

12.3.1 MITIGATION PROCEDURES The Project Neutral/Dispute Review Board shall be mutually selected and appointed by the Parties and shall execute a retainer agreement with the Parties establishing the scope of the Project Neutral/Dispute Review Board's responsibilities. The costs and expenses of the Project Neutral/Dispute Review Board shall be shared equally by the Parties. The Project Neutral/Dispute Review Board shall be available to either Party, upon request, throughout the course of the Project, and shall make regular visits to the Project so as to maintain an up-to-date understanding of the Project progress and issues and to enable the Project Neutral/Dispute Review Board to address matters in dispute between the Parties promptly and knowledgeably. The Project Neutral/Dispute Review Board shall issue nonbinding findings within five (5) business Days of referral of the matter to the Project Neutral, unless good cause is shown.

12.3.2 If the matter remains unresolved following the issuance of the nonbinding finding by the mitigation procedure or if the Project Neutral/Dispute Review Board fails to issue nonbinding findings



within five (5) Days of the referral, the Parties shall submit the matter to the binding dispute resolution procedure designated in section 12.5.

12.4 MEDIATION If direct discussions pursuant to section 12.2 do not result in resolution of the matter and no dispute mitigation procedure is selected under section 12.3, the Parties shall endeavor to resolve the matter by mediation through the current Construction Industry Mediation Rules of the American Arbitration Association, or the Parties may mutually agree to select another set of mediation rules. The administration of the mediation shall be as mutually agreed by the Parties. The mediation shall be convened within thirty (30) business Days of the matter first being discussed and shall conclude within forty-five (45) business Days of the matter first being discussed. Either Party may terminate the mediation at any time after the first session, but the decision to terminate shall be delivered in person by the terminating Party to the non-terminating Party and to the mediator. The costs of the mediation shall be shared equally by the Parties.

12.5 BINDING DISPUTE RESOLUTION If the matter is unresolved after submission of the matter to a mitigation procedure or to mediation, the Parties shall submit the matter to the binding dispute resolution procedure designated herein.

(Designate only one.)

Arbitration using the current Construction Industry Arbitration Rules of the American Arbitration Association

Litigation in either the state or federal court having jurisdiction of the matter in the location of the Project.

12.5.1 The costs of any binding dispute resolution procedures shall be borne by the non-prevailing Party, as determined by the adjudicator of the dispute. However, the costs of binding dispute resolution does not include attorney fees. The Parties are each responsible for paying for their own attorney fees.

12.5.2 VENUE The venue of any binding dispute resolution procedure shall be Des Moines, Iowa.

12.6 MULTIPARTY PROCEEDING All parties necessary to resolve a claim shall be parties to the same dispute resolution proceeding. Appropriate provisions shall be included in all other contracts relating to the Work to provide for the joinder or consolidation of such dispute resolution procedures.

12.7 LIEN RIGHTS The Trade Contractor acknowledges that it has no mechanic's lien rights on this Project because it is a public improvement project.

ARTICLE 13 MISCELLANEOUS PROVISIONS

13.1 ASSIGNMENT Neither the Owner nor the Trade Contractor shall assign their interest in this Agreement without the written consent of the other except as to the assignment of proceeds. The terms and conditions of this Agreement shall be binding upon both Parties, their partners, successors, assigns and legal representatives. Neither Party to this Agreement shall assign the Agreement as a whole without written consent of the other. If either Party attempts to make such an assignment, that Party shall nevertheless remain legally responsible for all obligations under this Agreement, unless otherwise agreed by the other Party.

13.2 GOVERNING LAW This Agreement and all disputes arising there from shall be governed by the Iowa law.

13.3 SEVERABILITY The partial or complete invalidity of any one or more provisions of this Agreement shall not affect the validity or continuing force and effect of any other provision.



13.4 NO WAIVER OF PERFORMANCE The failure of either Party to insist, in any one or more instances, on the performance of any of the terms, covenants or conditions of this Agreement, or to exercise any of its rights, shall not be construed as a waiver or relinquishment of such term, covenant, condition or right with respect to further performance or any other term, covenant, condition or right.

13.5 TITLES AND GROUPINGS The titles given to the articles of this Agreement are for ease of reference only and shall not be relied upon or cited for any other purpose. The grouping of the articles in this Agreement and of the Owner's specifications under the various headings is solely for the purpose of convenient organization and in no event shall the grouping of provisions, the use of sections or the use of headings be construed to limit or alter the meaning of any provisions.

13.6 ASSISTANCE OF COUNSEL AND INTERPRETATION The Parties agree that they had the opportunity to obtain the assistance of counsel in reviewing the Agreement terms prior to execution. This Agreement shall be construed neither against nor in favor of either Party, but shall be construed in a neutral manner.

13.7 RIGHTS AND REMEDIES The Parties' rights, liabilities, responsibilities and remedies with respect to this Agreement, whether in contract, tort, negligence or otherwise, shall be exclusively those expressly set forth in this Agreement.

13.8 ADDITIONAL PROVISIONS (Insert here other provisions, if any, that pertain to this Agreement See Below.)

13.9 COMPLIANCE WITH LAW AND REGULATIONS The Trade Contractor shall comply with all applicable federal, state, and local laws, rules, ordinances, regulations and orders when performing services and/or performing work under this Agreement, including without limitation, all laws applicable to the prevention of discrimination in employment and the use of targeted small businesses as subcontractors or suppliers. The Trade Contractor declares that it has complied with all federal, state and local laws regarding business permits and licenses that may be required to provide the services and work required by this Agreement. The Trade Contractor further acknowledges that if this Project is a recipient of Federal financial assistance that it may be subject to requirements of Federal Acts and Executive Orders as mandated by Federal agencies having authority and jurisdiction to enforce and ensure compliance with such laws and regulations including, but not necessarily limited to, the Davis Bacon Act and other Federal Acts and Executive Orders.

13.10 EMPLOYMENT PRACTICES: It is the intent of the Iowa Department of Administrative Services to assure equal employment opportunity in all contract work as required by law. Vendors, are required to take affirmative action to ensure that applicants employed or seeking employment with them are treated equally as required by law. Vendors shall not illegally discriminate against any employee. During the course of the Project, the Vendor may be required to show compliance with the EEO and Affirmative Action requirements. Noncompliance with the provisions set forth at the time of contract award may result in termination or suspension of the Agreement in whole or in part. All vendors and service providers working under the terms of this Agreement are prohibited from engaging in discriminatory employment practices forbidden by Iowa law. Vendors shall complete and submit the Nondiscrimination Clause form for the Owner's approval.

13.11 RECIPROCAL BIDDER PREFERENCE In accordance with Iowa Code Section 73A.21, as amended in 2011 by HF 648, if the Trade Contractor is not a resident bidder of Iowa, as defined by law, then the Trade Contractor must specifically identify in writing with its bid any and all preferences or preferential treatment (including preferences related to labor) enforced by the state or foreign country in which the Trade Contractor is a resident. If the low bid Trade Contractor is not a resident bidder of Iowa and the Trade Contractor's foreign State of residence enforces such a preference then the Owner shall reciprocally enforce the preference in favor of a resident bidder of Iowa. Failure on the part of the Trade Contractor to completely and accurately abide by this legal requirement may, among other things, result in civil penalties and void this Agreement. The Trade Contractor should contact its attorney regarding this legal requirement if the Trade



Contractor has questions regarding its meaning or application.

13.12 LABOR RELATIONS The Trade Contractor shall comply with all Iowa and Federal labor laws. In accordance with Executive Order Number 69, issued by the Governor of Iowa on or about January 14, 2011, no project labor agreement (also known as a PLA), or similar, will be used on this Project. Iowa is a right to work state. No consultant, contractor, or employee shall be obligated to contract with or join any labor organization as a condition of performing work on this Project.

ARTICLE 14 TRADE CONTRACT DOCUMENTS

14.1 The Trade Contract Documents in existence at the time of execution of this Agreement are as follows:

RFBXXXXXXXXX Bid Package X

14.2 INTERPRETATION OF TRADE CONTRACT DOCUMENTS

14.2.1 The drawings and specifications are complementary. If Trade Contract Work is shown only on one but not on the other, the Trade Contractor shall perform the Trade Contract Work as though fully described on both consistent with the Trade Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

14.2.2 In case of conflicts between the drawings and specifications, the specifications shall govern. In any case of omissions or errors in figures, drawings or specifications, the Trade Contractor shall immediately submit the matter to the Owner for clarification. The Owner's clarifications are final and binding on all Parties, subject to an equitable adjustment in Trade Contract Time or Price pursuant to ARTICLE 6 and ARTICLE 7 or dispute resolution in accordance with ARTICLE 12.

14.2.3 Where figures are given, they shall be preferred to scaled dimensions.

14.2.4 Any terms that have well-known technical or trade meanings, unless otherwise specifically defined in this Agreement, shall be interpreted in accordance with their well-known meanings. This Agreement entered into as of the date entered in ARTICLE 1.

14.2.5 PRECEDENCE In case of any inconsistency, conflict or ambiguity among the Trade Contract Documents, the documents shall govern in the following order: (a) Trade Contract Change Orders and written amendments to this Agreement; (b) this Agreement; (c) subject to subsection 14.2.2 the drawings, specifications and addenda issued prior to the execution of this Agreement; (d) approved submittals; (e) information furnished by the Owner pursuant to subsection 4.1.3; (f) other documents listed in this Agreement. Among all the Trade Contract Documents, the term or provision that is most specific or includes the latest date shall control. Information identified in one Trade Contract Document and not identified in another shall not be considered to be a conflict or inconsistency.

This Agreement entered into as of the date entered in ARTICLE 1.

OWNER State of Iowa, Department of Administrative Services



Trade Contractor: *Contractor Name*

By: _____

(Authorized Representative)

Name:

Title:

Date:

Owner: State of Iowa - DAS

By: _____

(Authorized Representative)

Name:

Title:

Date:

END OF DOCUMENT.

DRAFT



SECTION 00 6000

PERFORMANCE AND PAYMENT BOND

PART 1 - GENERAL

1.01 PERFORMANCE AND PAYMENT BOND

- A. Performance and payment bonds to be used on this project, ConsensusDocs 260 and 261 are attached for reference following this page. ConsensusDocs performance and payment bonds are not required (other standard forms are acceptable to the State of Iowa).

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION



CONSENSUSDOCS 260 PERFORMANCE BOND

This document was developed through a collaborative effort of organizations representing a wide cross-section of the design and construction industry. The organizations endorsing this document believe it represents a fair allocation of risk and responsibilities for all project participants.

Endorsing organizations recognize that this document must be reviewed and adapted to meet specific needs and applicable laws. This document has important legal and insurance consequences. You are encouraged to consult legal, insurance and surety advisors before completing or modifying this document. The software includes a notes section indicating where information is to be inserted to complete this document. Further information and endorsing organizations' perspectives are available at www.consensusdocs.org/guidebook.

For Use with ConsensusDOCS 200, Standard Form of Agreement and General Conditions Between Owner and Constructor (Where the Contract Price is a Lump Sum) and ConsensusDOCS 500, Standard Agreement and General Conditions Between Owner and Construction Manager.

The Owner, _____, (the "Owner") and the Constructor, _____, (the "Constructor") have entered into a Contract (the "Contract") dated _____ for _____ (the "Project"). The Contract is incorporated by reference into this Performance Bond (the "Bond").

By virtue of this Bond, the Constructor as Principal and _____ as Surety ("Surety"), are bound to the Owner as Obligee in the maximum amount of _____ Dollars (\$ _____) (the "Bond Sum"). The Constructor and Surety hereby bind themselves, their heirs, executors,

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.

administrators, successors and assigns, jointly and severally, as provided herein.

1. **GENERAL CONDITIONS** It is the condition of this Bond that if the Constructor performs its Contract obligations (the "Work"), the Surety's obligations under this Bond are null and void. Otherwise the Surety's obligations shall remain in full force and effect. The Surety waives any requirement to be notified of alterations or extensions of time made by the Owner in the Contract. The Owner may not invoke the provisions of this Bond unless the Owner has performed its obligations pursuant to the Contract. Upon making demand on this Bond, the Owner shall make the Contract Balance (the total amount payable by the Owner to the Constructor pursuant to the Contract less amounts properly paid by the Owner to the Constructor) available to the Surety for completion of the Work.

2. **SURETY OBLIGATIONS** If the Constructor is in default pursuant to the Contract and the Owner has declared the Constructor in default, the Surety promptly may remedy the default or shall:

- a. Complete the Work, with the consent of the Owner, through the Constructor or otherwise;
- b. Arrange for the completion of the Work by a Constructor acceptable to the Owner and secured by performance and payment bonds equivalent to those for the Contract issued by a qualified surety. The Surety shall make available as the Work progresses sufficient funds to pay the cost of completion of the Work less the Contract Balance up to the Bond Sum; or
- c. Waive its right to complete the Work and reimburse the Owner the amount of its reasonable costs, not to exceed the Bond Sum, to complete the Work less the Contract Balance.

3. **DISPUTE RESOLUTION** All disputes pursuant to this Bond shall be instituted in any court of competent jurisdiction in the location in which the Project is located and shall be commenced within two years after default of the Constructor or Substantial Completion of the Work, whichever occurs first. If this provision is prohibited by law, the minimum period of limitation available to sureties in the jurisdiction shall be applicable.

This Bond is entered into as of _____.

SURETY _____ (seal)

By:

Print Name: _____

Print Title: _____

(Attach Power of Attorney)

Witness:

CONSTRUCTOR _____ (seal)

By:

Print Name: _____

Print Title: _____

Witness:

(Additional signatures, if any, appear on attached page)

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.



**CONSENSUSDOCS 261
PAYMENT BOND**

This document was developed through a collaborative effort of organizations representing a wide cross-section of the design and construction industry. The organizations endorsing this document believe it represents a fair allocation of risk and responsibilities for all project participants.

Endorsing organizations recognize that this document must be reviewed and adapted to meet specific needs and applicable laws. This document has important legal and insurance consequences. You are encouraged to consult legal, insurance and surety advisors before completing or modifying this document. The software includes a notes section indicating where information is to be inserted to complete this document. Further information and endorsing organizations' perspectives are available at www.consensusdocs.org/guidebook.

For Use with ConsensusDOCS 200, Standard Form of Agreement and General Conditions Between Owner and Constructor (Where the Contract Price is a Lump Sum) and ConsensusDOCS 500, Standard Agreement and General Conditions Between Owner and Construction Manager.

The Owner, _____, (the "Owner ")
and the Constructor, _____,
(the "Constructor") have entered into a Contract (the "Contract") dated _____ for
_____ (the "Project"). The Contract is
incorporated by reference into this Payment Bond (the "Bond").

By virtue of this Bond, the Constructor as Principal and _____ as
Surety ("Surety"), are bound to the Owner as Obligee in the maximum amount of
_____ Dollars (\$ _____) (the
"Bond Sum"). The Constructor and Surety hereby bind themselves, their heirs, executors,

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.

administrators, successors and assigns, jointly and severally, as provided herein.

1. GENERAL CONDITIONS It is the condition of this Bond that if the Constructor promptly makes payment of all sums for all labor, materials, and equipment furnished for use in the performance of the work required by the Contract, the Surety's obligations pursuant to this Bond are null and void. Otherwise the Surety's obligations shall remain in full force and effect. The Surety waives any requirement to be notified of alterations or extensions of time made by the Owner in the Contract.

2. SURETY OBLIGATION Every Claimant who has not been paid in full before the expiration of a period of ninety (90) Days after such Claimant provided or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, may have a right of action on this Bond. The Surety's obligation to the Claimant(s) shall not exceed the Bond Sum.

3. LIMITATION OF ACTION No suit or action shall be commenced on this Bond by any Claimant:

- a. Unless Claimant, other than one having a direct Contract with the Constructor, shall have given written notice to the Constructor, the Owner and the Surety within ninety (90) Days after the Claimant provided or performed the last of the work or labor, or furnished the last of the materials for which the claim is made, stating with substantial accuracy the amount claimed and the name of the Party to whom the materials were furnished, or for whom the work or labor was provided or performed. Such notice shall be served by any means which provides written third party verification of delivery to the Constructor at any place it maintains an office or conducts business, or served in any manner in which legal process may be served in the state in which the Project is located.
- b. After the expiration of one (1) year from the date on which the Claimant last performed labor or furnished materials or equipment on the Project. If this provision is prohibited by law, the minimum period of limitation available to sureties in the jurisdiction shall be applicable.
- c. Other than in any court of competent jurisdiction in the location in which the Project is located.

4. CLAIMANT A Claimant is defined as an individual or entity having a direct contract with the Constructor or having a contract with a subcontractor having a direct contract with the Constructor to furnish labor, materials or equipment for use in the performance of the Contract.

This Bond is entered into as of _____.

SURETY _____ (seal)

By:

Print Name: _____

Print Title: _____

(Attach Power of Attorney)

Witness:

CONSTRUCTOR _____ (seal)

By:

Print Name: _____

IMPORTANT: A vertical line in the margin indicates a change has been made to the original text. Prior to signing, recipients may wish to request from the party producing the document a "redlined" version indicating changes to the original text. Consultation with legal and insurance counsel and careful review of the entire document are strongly encouraged.

Print Title: _____

Witness:

(Additional signatures, if any, appear on attached page)

SECTION 01 1200

CONTRACT SUMMARY

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Project Information
- B. Project Summary
- C. Bid Scope Summary
- D. Work Hour Restrictions
- E. Access to Site
- F. Coordination with Occupants
- G. Rules for Construction Workers
- H. Bid Package Instructions

1.02 PROJECT INFORMATION

- A. Facility Name/Location: 5JD Administrative Office, 1000 Washington Ave., Des Moines, Iowa 50314
- B. DAS Project #: 9346.00
- C. Owner: State of Iowa, Department of Administrative Services, Hoover State Office Building, Level 3, 1305 East Walnut Street, Des Moines, IA 50319
- D. Owner's Representative: Lance Wignall, Iowa Department of Administrative Services, 109 SE 13th Street, Des Moines, IA 50319
- E. Construction Manager: Jerry Dehnke, Project Manager, The Samuels Group, 2929 Westown Parkway, Suite 200, West Des Moines, IA 50266

1.03 PROJECT SUMMARY

- A. The project includes Removal and replacement of existing EPDM roofing systems to include demolition, insulation, roofing material, roofing installation, gutters, downspouts, ladder access revision, new roof hatch, and flashing for the 5th Judicial Administration Building, 1000 Washington Ave. Des Moines, IA.
- B. Target date to provide substantial completion is May 31, 2024.

1.04 BID SCOPE SUMMARY

- A. Scope Applicable to All Bid Packages:
 - 1. The Contractor's Work includes all labor, supervision, materials, equipment, services, supplies, tools, facilities, transportation, hoisting, storage, receiving, licenses, inspections, certifications, overhead, profit, or other items required or reasonably inferable to properly and timely perform and complete all work and services to be performed by the Contractor pursuant to this Agreement. Unless specifically stated otherwise, incidental work required to accomplish the work of this Bid Package shall be included the bid. This would include, but not be limited to, temporary facilities, protection of the work, security of equipment, materials, and work in progress, etc. Contractor's Work shall be performed in accordance with the Drawings, Specification Divisions 00 and 01, and Specification sections applicable to each Contractor's scope.
 - 2. Contractor is responsible for all labor and equipment to unload, account for all material delivered, stock, and delivery for this scope of work. Storage and delivery of materials and equipment at the Site shall be permitted only to the extent approved in advance by the Construction Manager, and if anything so stored obstructs the progress of any portion

of the work, it shall be promptly removed or relocated by the Contractor without reimbursement.

3. On site supervision by Prime Contractor at all times work by that contractor or their subcontractors/suppliers is taking place.
4. Provide all temporary facilities required for this scope of work including trailer, trailer power, telephone, secured storage, temporary power for work, temporary and task lighting for work, etc. as determined necessary by Contractor. Coordinate location of trailers, material storage and utility lines with Construction Manager. Limited space is available, and permission to bring any such facility or excess materials on to the site shall be approved by the Construction Manager.
5. Contractor is responsible for their own dumpsters and portable toilets.
6. Contractor shall provide all equipment and tools for Contractor's own cleanup. Clean up shall be done at end of every shift or more frequently if required for the Contractor to perform their work, for other Contractors to perform their work, as required by the Owner's operations, and at the discretion of the Construction Manager.
7. All turf, landscaping, and subgrade disturbances caused by equipment traffic or other activities related to the Contractor's scope shall be repaired or restored to proper conditions by the Contractor. Review Allowance information in the Bid Scope Summary.
8. Protect adjacent existing building elements from damage from Scope of work. Repair existing building elements damaged during Contractor's Scope of work.

1.05 WORK HOUR RESTRICTIONS

- A. Work hours are from 7:00 AM to 4:00 PM, Monday through Friday unless arrangements are made in advance. This project will allow for weekend work, but interior building access will not be allowed on weekends or holidays.
- B. Contractors shall follow all local city ordinances related to noise and work hours.

1.06 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
- B. Provide access to and from site as required by law and Owner:
 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 2. Do not obstruct roadways, sidewalks, or other public ways without permission of Owner and permit if required.
- C. Facility will be occupied at all times during duration of work. Contractor personnel shall conduct themselves in an agreeable manner at all times. Failure to do so may result in removal from the work site.
- D. The only access inside the building will be for the ladder work revisions.
- E. Access to the roof area shall be by exterior access only, access through the interior of the building for this project is prohibited.
- F. Clean up of project will be completed daily.
- G. All materials stored on the project shall be secured in place.

1.07 OWNER OCCUPANCY

- A. Owner intends to occupy the Project upon Substantial Completion.
- B. Owner will be occupying the building at all times during construction.
- C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- D. Schedule the Work to accommodate Owner occupancy.
- E. The contractor shall be responsible for overhead protection at all doorways.

1.08 RULES FOR CONSTRUCTION WORKERS

- A. The staff of the State of Iowa has a responsibility to protect the public by providing a secure environment. All work site rules must be followed to the letter, at all times.
- B. Hot Work Permit Processes and Fire Watch, when necessary, will be adhered to for this project.
- C. All State properties are tobacco free. No smoking will be permitted or tolerated on campus unless in designated areas.
- D. You are permitted access only to the work site and no other area of the institution.
- E. No drugs, alcohol, or firearms are allowed on the work site.
- F. Do not leave money, drugs, alcohol, or firearms in your personal vehicle.
- G. Company and personal vehicles are to be parked and locked in designated or authorized area of the work. **Parking allowed on public street parking only.**
- H. Secure all tools at the end of the day.
- I. Maintain control of all tools, supplies, and debris at all times during the work.
- J. Never leave keys in any vehicle. If a security officer finds keys in a vehicle, they are under orders to turn them in to a security supervisor.
- K. Do not give anything to residents or take anything from residents; if they offer, inform your supervisor.
- L. Secure all tools at the end of each day. Never leave tools unattended. All tools shall be checked in at the beginning of the day and checked out at the end of the day. If security officers find loose tools, they are under orders to turn them in to their supervisor.
- M. All delivery vehicles must go directly to the job site. Extra time should be anticipated for all deliveries. Provide 24-hour notice to the facility of deliveries.
- N. During an emergency, follow the instructions of the security staff.

1.09 BID PACKAGE INSTRUCTIONS

- A. **Bid Package #01** – 5JD Administrative Office Roof Replacement: Trade Contractor shall include all of the following, but not limited to, as part of the contract:
 - 1. Drawings: All work on Drawings (R1, R2, R3, R4, and R5).
 - 2. Includes specification: All Specifications in Divisions 00, 01, 02, 06, and 07 as relates to the 5JD Admin. Office Roof Replacement Project, RFB934600-01.
 - 3. Includes all temporary facilities including power.
 - 4. Include lump sum Allowance of \$10,000.00 for repair of yard and grass areas south of the Administrative Office Building. Contractor to submit invoices, delivery slips, and/or time sheets to show actual quantities to be signed off by construction manager at time of execution/delivery.
- B. **Alternate #01** – Covered Curbs: Trade Contractor shall include all of the following, but not limited to, as part of the contract:
 - 1. Existing covered curbs on Level E have steel structural frame support. Cut frame down and place new decking, new insulation, and adhered EPDM over.
 - 2. Includes seven locations on Level E. Reference Detail 18 on R4.
 - 3. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 4. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
 - 5. Execute accepted alternates under the same conditions as other work of the Contract.
- C. **Unit Price #01** – ISO Insulation Replacement (Additive or deductive of base bid quantity): Trade Contractor shall include all of the following, but not limited to, as part of the contract:

1. Removal of damaged/or wet insulation and replace with new polyisocyanurate insulation board above 700 SF base bid quantity.
2. Unit Price shall be based on 1 (one) square foot of 1.5" board.
3. Unit Price shall be additive or deductive of 700 SF base bid quantity.
4. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
5. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 01 2500

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Substitution Procedures
- B. Request for Substitution form

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 SUBSTITUTION PROCEDURES

- A. Where the Bidding Documents stipulate a specific product be provided by naming one or more manufacturer and model, a substitute product will be considered when written request is received by the date and time identified in Section 00 1113 NOTICE TO BIDDERS. Substitution requests will be considered for all products, even if the specification does not include a statement such as “or equal,” “equal to,” “equivalent to,” or “basis of design,” unless noted otherwise.
- B. References in the Bidding Documents to brand or trade names are intended to illustrate the general characteristics of the item and not to limit competition unless noted otherwise.
- C. The written request shall be on the “Request for Substitution” form included in the Project Manual. If no such form is included, the request shall be provided on the letterhead of the company making the request.
- D. Substitution requests received after the specified date will be viewed in the context of a Change Order to the Contract, and consideration will only be given in the event a product becomes unavailable or not practical due to no fault of the Contractor, or the substitution is substantially to the Owner’s advantage (equal product for less cost or higher quality product at no change in Contract Sum).
- E. Document each substitution request with complete data substantiating compliance of the proposed substitution with the Bidding Documents. Each request shall identify the specified product for which the substitution is requested, and shall clearly describe the product for which approval is requested. The burden shall be on the requester to demonstrate the proposed substitute product’s suitability for use in the Work and its equivalency or superiority in function, appearance, quality, and performance with the product named in the Bidding Documents.
- F. A description of any changes to the Bidding Documents that the proposed substitution will require shall be included with the request. The requester shall affirm that dimensions shown on the Drawings will not be affected by the substitute product, and that it will have no adverse effect on other trades, the construction schedule, or specified warranty requirements. The request for use of a substitute product shall be signed by an authorized representative of the firm submitting the request, who shall state that the firm will pay for any changes to the building design, including Design Professional’s design, detailing, and construction cost caused by the requested substitution if the substitution is approved for use in the Work.
- G. All such substitute products approved for use in the Work during the established period of time before receipt of Bids will be identified in a subsequent Addendum to the Bidding Documents.

3.02 REQUEST FOR SUBSTITUTION FORM

- A. A Request for Substitution Form is attached following this page.
- B. Substitution requests shall be emailed to the Issuing Officer at the email address provided in Instructions to Bidders Section 1.04.

END OF SECTION

SUBSTITUTION REQUEST FORM

Project: _____ Substitution Request Number: _____

From: _____
To: _____ Date: _____

A/E Project Number: _____
Re: _____

Specification Title: _____ Description: _____
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
Manufacturer: _____ Address: _____ Phone: _____
Trade Name: _____ Model No.: _____

History: New product 2-5 years old 5-10 yrs old More than 10 years old

Differences between proposed substitution and specified product: _____

Point-by-point comparative data prepared by contractor and attached - REQUIRED BY A/E

Reason for not providing specified item: _____

Similar Installation:

Project: _____ Architect: _____
Address: _____ Owner: _____
_____ Date Installed: _____

Proposed substitution affects other parts of Work: No Yes; explain _____

Supporting Data Attached: Drawings Product Data Samples Tests Reports _____

SUBSTITUTION REQUEST FORM

(Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

Telephone: _____

Attachments: _____

A/E's REVIEW AND ACTION

- Substitution approved - Make submittals in accordance with Specification Section 01 3300.
- Substitution approved as noted - Make submittals in accordance with Specification Section 01 3300.
- Substitution rejected - Use specified materials.
- Substitution Request received too late - Use specified materials.

Signed by:

Date:

Additional Comments: Contractor Subcontractor Supplier Manufacturer A/E _____

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SECTION 01 2600

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Change procedures

1.02 CHANGE PROCEDURES

- A. The Design Professional will advise of minor changes in the work not involving an adjustment to Contract Sum/Price or contract time as authorized.
- B. The Construction Manager may issue a Proposal Request that includes a detailed description of a proposed change with supplementary or revised drawings and specifications and a change in contract time for executing the change as provided by the Design Professional. The Trade Contractor will prepare and submit an estimate within 7 calendar days. Estimates shall be provided for the project at no cost, regardless of acceptance or rejection of proposal.
- C. The Trade Contractor may propose changes by submitting a Request for Information to the Construction Manager, describing the proposed change and its full effect on the work. Include a statement describing the reason for the change, and the effect on the Contract Sum/Price and contract time with full documentation and a statement describing the effect on work by separate or other contractors. Document any requested substitutions in accordance with the specifications. Construction Manager will forward the Request for Information on to the Design Professional for their official response.
- D. Stipulated Sum/Price Change Order: Based on executed Change Order and contractor's fixed price quotation.
- E. Unit Price Change Order: The change order will be executed on a fixed unit price basis for pre-determined unit prices and quantities. Changes in contract price or contract time will be computed as specified for time and material change orders.
- F. Time and Material Change Order: The change order will be executed on a not to exceed basis. Design professional and Construction Manager will determine the not to exceed estimated cost based on contractor's proposal for hourly rates and material costs. Maintain detailed records of work done on time and material basis. Time and Material tickets must be submitted daily to the Construction Manager for verification. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the work. Submit itemized account and supporting data after completion of change. A final deductive change order will be issued to reconcile final cost to the initial change order.
- G. Change Order Forms: CONSENSUSDOC Forms provided by Owner.
- H. Execution of Change Orders: The Construction Manager will issue change orders for signature of parties as provided in the Conditions of the Contract.
- I. With respect to pricing change orders, the percentage mark-up for overhead and profit is subject to the following limits:
 - 1. Fifteen (15) percent maximum for work directly performed by employees of the Constructor, Subcontractor or Sub-subcontractor.
 - 2. Five (5) percent maximum for work performed or passed through by a Subcontractor and passed through to the Owner by the Constructor.
 - 3. Five (5) percent maximum Subcontractor's mark-up for Work performed by a Sub-Subcontractor and passed through to the Owner by the Subcontractor and Constructor.
 - 4. The maximum allowable mark-up shall be twenty-five (25) percent passed through to the Owner by the Constructor under any circumstances. Overhead and profit shall be shown separately for the Constructor and each Subcontractor of any tier performing the Change Order Work.

- J. Contractor and subcontractor agree to provide and require all suppliers to provide, a detailed breakdown of labor, labor burden, materials, installation, rental, and fuel costs.
- K. **Please refer to Article 8 of CONSENSUDOCS 802- STANDARD FORM OR AGREEMENT BETWEEN OWNER AND TRADE CONTRACTOR for additional Change Procedures.**

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 01 2900

PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Schedule of values
- B. Application for payment

1.02 SCHEDULE OF VALUES

- A. Coordination: Trade Contactor will coordinate preparation of the Schedule of Values with preparation of the Construction Manager's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including Application for Payment forms with Continuation Sheets, Submittals Schedule, and Construction Manager's Construction Schedule.
 - 2. Submit original Schedule of Values in Procore within 14 days after date of Owner-Trade Contractor Agreement. Schedule of Values must be approved by Owner prior to submission for first application for payment.
- B. Format: Utilize the Table of Contents of this project manual. Identify each line item with number and title of the major specification section. Each major specification section should be further itemized by materials cost, labor cost and subcontractor cost for each building separately for the base bid and all accepted alternates. Identify site mobilization, bonds and insurance.
 - 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name and address of Owner, Trade Contractor, Construction Manager and Design Team.
 - c. DAS Project Number.
 - d. Date of Submittal.
 - 2. Revise the Schedule of Values to list approved Change Orders with each Application for Payment.

1.03 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications for payments as certified by the Design Professional and paid for by Owner.
 - 1. Application for Payment at time of Substantial Completion and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement. Progress payments shall be submitted to the Construction Manager. Any request for payment for work completed prior to June 30th of any year needs to be submitted by July 15th of the same calendar year.
- C. Payment Application Forms: Use AIA form G702 and G703 as the form for the Application for Payment or an equivalent approved by the owner.
- D. Include lien waiver forms required by the owner when applicable.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of the Trade Contractor. Construction Manager will return incomplete applications without action.
 - 1. Include amounts of Change Orders issued before last day of construction period covered by application.

- F. Waivers of Mechanic's Lien: If requested by Owner with each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment when applicable.
 - 1. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 2. Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- G. Initial Application for Payment: Administrative actions and submittals that must precede submittal of first Application for Payment include the following:
 - 1. Schedule of Values
 - 2. Certificates of insurance and insurance policies.
 - 3. Lists of vendors and any subcontractors.
- H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for the portion of the Work claimed as substantially complete.
 - 1. Include documentation supporting the claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 - 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 - 1. Evidence of completion of Project closeout requirements.
 - 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 - 3. Updated final statement, accounting for final changes to the Contract Sum.
 - 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 - 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 - 6. AIA Document G707, "Consent of Surety to Final Payment."
 - 7. Letter of Notification to all sub-contractors and suppliers of application for release of retainage.
 - 8. Evidence that claims have been settled.
- J. Payments will be made to the extent of the value of the work performed in the previous month less a retainage amount of 5% of the value of the work performed. Upon substantial completion for the entire work, a sum sufficient to decrease the total retained to 5% of the contract sum, plus such other retainage as the engineer shall determine for all incomplete work and unsettled claims will be authorized.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Coordination
- B. Pre-construction meeting
- C. Progress meetings
- D. Coordination Meetings
- E. Requests for Interpretation (RFIs)

1.02 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the project manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Administrative procedures: The Trade Contractor will 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, the following:
 - 1. Preparation of Trade Contractor's Construction Schedule.
 - 2. Provide updated information for Construction Manager's Construction Schedule.
 - 3. Preparation of Schedule of Values.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Pre-installation conferences.
 - 7. Project closeout activities
- C. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work, which are indicated diagrammatically on drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated conceal pipes and wiring within the construction. Coordinate locations of piping with finish elements.
- F. Coordinate completion and cleanup of work of separate sections in preparation for Substantial Completion.
- G. After owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of owner's activities.
- H. During construction coordinate use of site and facilities through Construction Manager.
- I. Comply with Construction Manager and Owner's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

- J. Make the following types of submittal to Architect through the Construction Manager via Procure:
1. Request for Information/Interpretation.
 2. Request for substitution.
 3. Shop drawings, product data, and samples.
 4. Test and inspection reports.
 5. Design data.
 6. Manufacturer's instructions and field reports.
 7. Applications for payment and change order requests.
 8. Progress schedules.
 9. Coordination drawings.
 10. Correction punch list and final correction punch list for substantial completion
 11. Closeout submittals

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 PRE-CONSTRUCTION MEETING

- A. The Construction Manager and Owner will schedule a meeting after Notice of Award.
- B. Required: Design Professional, Owner, Construction Manager, Trade Contractor and any Sub Contractors.
- C. Agenda:
1. Execution of Owner-Contractor Agreement.
 2. Submission of executed bonds and insurance certificates.
 3. Distribution of Contract Documents.
 4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 5. Designation of personnel representing the parties in Contract.
 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, change orders, RFIs and contract closeout procedures
 7. Tentative construction schedule.
 8. Critical work sequencing and long-lead items.
 9. Procedures for testing and inspecting.
 10. Preparation of Record Documents.
 11. Safety Procedures.
 12. Owner's requirements.
 13. Security and housekeeping procedures.
 14. Responsibility for temporary facilities and controls.
 15. Construction waste management.
 16. Logistics (use of premise, parking, work restrictions, maintain egress, etc.)
- D. The Construction Manager is to record minutes and distribute copies within two days after meeting to participants, with one copy to owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. The Construction Manager shall schedule and administer meetings throughout progress of the work at bi-weekly intervals.
- B. The Construction Manager is to make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings, record minutes and distribute copies within two days to those affected by decisions made.

- C. Attendees may include: Project superintendent, major subcontractors and suppliers, Owner, Construction Manager, Architect/Engineer, as appropriate to agenda topics for each meeting. All participants at the conference call shall be familiar with the Project and authorized to conclude matters relating to the Work.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review the Construction Manager's Construction Schedule.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems that impede planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of RFI's.
 - 7. Review of off-site fabrication and delivery schedules.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on progress schedule and coordination.
 - 13. Other business relating to work.
 - 14. Access, temporary facilities and controls, housekeeping and progress cleaning.
 - 15. Safety.
 - 16. Status of proposal requests, pending changes, official Change Orders.
- E. Minutes:
 - 1. Following the meeting, the meeting minutes will be published in Procore by the Construction Manager for all parties.

3.03 COORDINATION MEETINGS

- A. Coordination meetings will be held at the discretion of the construction manager.

3.04 REQUESTS FOR INTERPRETATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, prepare and submit an RFI in Procore.
 - 1. RFIs shall originate with Trade Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in the Work.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
 - 1. Specification Section number and title and related paragraphs, as appropriate.
 - 2. Drawing number and detail references, as appropriate.
 - 3. Field dimensions and conditions, as appropriate.
 - 4. Trade Contractor's suggested solution(s). If Trade Contractor's solution(s) impact the Contract Time or the Contract Sum, Trade Contractor shall state impact in the RFI.
 - 5. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
- C. Design Professional's Action: Design Professional will review each RFI, determine action required, and return it. Allow seven (7) working days for Design Professional's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day. The following RFIs will be returned without action:
 - 1. Requests for approval of submittals.
 - 2. Requests for approval of substitutions.
 - 3. Requests for coordination information already indicated in the Contract Documents.
 - 4. Requests for adjustments in the Contract Time or the Contract Sum.

5. Requests for interpretation of Design Professional's actions on submittals.
 6. Incomplete RFIs or RFIs with numerous errors.
 7. Design Professional's action may include a request for additional information, in which case Design Professional's time for response will start again.
- D. Design Professional's action on RFIs that may result in a change to the Contract Time or the Contract Sum/Price.
1. If Trade Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Construction Manager in writing within ten (10) days of receipt of the RFI response.
- E. On receipt of Design Professional's response in Procore, review the response and notify Design Professional within seven (7) days if Trade Contractor disagrees with response.

END OF SECTION

SECTION 01 3100.01

WEB BASED CONSTRUCTION MANAGEMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Owner and Contractor shall utilize **Procore Technologies, Inc. Procore** system for electronic submittal of all data and documents (unless specified otherwise by the owner's representative) throughout the duration of the Contract. **Procore** is a web-based electronic media site that is hosted by **Procore Technologies, Inc.**, utilizing their **Procore** web solution. **Procore** will be made available to all contractors' project personnel, subcontractor personnel, suppliers, consultants and the Designer of Record. The joint use of this system is to facilitate; electronic exchange of information, automation of key processes, and overall management of the contract. **Procore** shall be the primary means of project information submission and management. When required by the Owners representative, paper documents will also be provided. In the event of discrepancy between the electronic version and paper documents, the paper documents will govern. **Procore** is a registered trademark of **Procore Technologies, Inc.**

1.02 USER ACCESS LIMITATIONS

- A. The Owner's Representative/Construction Manager will control the Contractor's access to **Procore** by allowing access and assigning user profiles to accepted Contractor personnel. User profiles will define levels of access into the system, determine assigned function-based authorizations (determines what can be seen) and user privileges (determines what they can do). Sub-contractors and suppliers will be given access to **Procore** through the Contractor. Entry of information exchanged and transferred between the Contractor and its sub-contractors and suppliers on **Procore** shall be the responsibility of the Contractor.
1. Joint Ownership of Data: Data entered in a collaborative mode (entered with the intent to share as determined by permissions and workflows within the **Procore** system) by the Owner's Representative and the Contractor will be jointly owned.

1.03 AUTOMATED SYSTEM NOTIFICATION AND AUDIT LOG TRACKING

- A. Review comments made (or lack thereof) by the Owner on Contractor submitted documentation shall not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for managing, tracking, and documenting the Work to comply with the requirements of the Contract Documents. Owner's acceptance via automated system notifications or audit logs extends only to the face value of the submitted documentation and does not constitute validation of the Contractor's submitted information.

1.04 SUBMITTALS

- A. See Section 01 3300 SUBMITTAL PROCEDURES:
- B. Preconstruction Submittals
1. List of Contractor's key **Procore** personnel. Include descriptions of key personnel's roles and responsibilities for this project. Contractor should also identify their organization's administrator on the list.

1.05 COMPUTER REQUIREMENTS

- A. The Contractor shall use computer hardware and software that meets the requirements of the **Procore** system as recommended by **Procore Technologies, Inc.** to access and utilize

Procure. As recommendations are modified by **Procure**, the Contractor will upgrade their system(s) to meet the recommendations or better. Upgrading of the Contractor's computer systems will not be justification for a cost or time modification to the Contract. The contractor will ensure that connectivity to the **Procure** system (whether at the home office or job site) is accomplished through DSL, cable, T-1 or wireless communications systems. The minimum bandwidth requirement for using the system is 128kb/s. It is recommended a faster connection be used when uploading pictures and files into the system. **Procure** supports the current and prior two major versions of Chrome, Firefox, Internet Explorer, and Safari.

- B. The Contractor shall be responsible for the validity of their information placed in **Procure** and for the abilities of their personnel. Accepted users shall be knowledgeable in the use of computers, including Internet Browsers, email programs, cad drawing applications, and Adobe Portable Document Format (PDF) document distribution program. The Contractor shall utilize the existing forms in **Procure** to the maximum extent possible. If a form does not exist in **Procure** the Contractor must include a form of their own or provided by the Owner representative as an attachment to a submittal. Adobe PDF documents will be created through electronic conversion rather than optically scanned whenever possible. The Contractor is responsible for the training of their personnel in the use of **Procure** (outside what is provided by the owner) and the other programs indicated above as needed.
- C. User Access Administration: Provide a list of Contractor's key **Procure** personnel for the Owner's Representative acceptance. Contractor is responsible for adding and removing users from the system. The Owners Representative reserves the right to perform a security check on all potential users. The Contractor will be allowed to add additional personnel and sub-contractors to **Procure**.

1.06 CONNECTIVITY PROBLEMS

- A. **Procure** is a web-based environment and therefore subject to the inherent speed and connectivity problems of the Internet. The Contractor is responsible for its own connectivity to the Internet. **Procure** response time is dependent on the Contractor's equipment, including processor speed, Internet access speed, etc. and current traffic on the Internet. The Owner will not be liable for any delays associated from the usage of **Procure** including, but not limited to: slow response time, down time periods, connectivity problems, or loss of information. The contractor will ensure that connectivity to the **Procure** system (whether at the home office or job site) is accomplished through DSL, cable, T-1 or wireless communications systems. The minimum bandwidth requirement for using the system is 128kb/s. It is recommended a faster connection be used when uploading pictures and files into the system. Under no circumstances shall the usage of the **Procure** be grounds for a time extension or cost adjustment to the contract.

1.07 TRAINING

- A. The Construction Manager shall provide the necessary training to the Prime Contractor.

PART 2 - PRODUCTS

2.01 DESCRIPTION

- A. **Procure** project management application (no equal) Provided by Procure Technologies, Inc. www.Procure.com

PART 3 - EXECUTION

3.01 PROCORE UTILIZATION

- A. **Procore** shall be utilized in connection with submittal preparation and information management required by Sections:
1. PROJECT MANAGEMENT AND COORDINATION
 2. CONSTRUCTION PROGRESS DOCUMENTATION
 3. SUBMITTAL PROCEDURES
 4. QUALITY REQUIREMENTS
 5. Other Division One sections.
 6. Requirements of this section are in addition to requirements of all other sections of the specifications.
- B. Design Document Submittals
1. All design drawings and specifications shall be submitted as cad .dwg files or PDF attachments to the **Procore** submittal work flow process and form.
- C. Shop Drawings
1. Shop drawing and design data documents shall be submitted as cad .dwg files or PDF attachments to the **Procore** submittal work flow process and form. Examples of shop drawings include, but are not limited to:
 2. Standard manufacturer installation drawings.
 3. Drawings prepared to illustrate portions of the work designed or developed by the Contractor.
 4. Steel fabrication, piece, and erection drawings.
- D. Product Data
1. Product catalog data and manufacturer's instructions shall be submitted as
 2. PDF attachments to the **Procore** submittal work flow process and form. Examples of product data include, but are not limited to:
 3. Manufacturer's printed literature.
 4. Preprinted product specification data and installation instructions.
- E. Samples
1. Sample submittals shall be physically submitted as specified in Section 01 3300 SUBMITTAL PROCEDURES. Contractor shall enter submittal data information into **Procore** with a copy of the submittal form(s) attached to the sample. Examples of samples include, but are not limited to:
 2. Product finishes and color selection samples.
 3. Product finishes and color verification samples.
 4. Finish/color boards.
 5. Physical samples of materials.
- F. Administrative Submittals
1. All correspondence and pre-construction submittals shall be submitted using **Procore**. Examples of administrative submittals include, but are not limited to:
 2. Digging permits and notices for excavation.
 3. List of product substitutions
 4. List of contact personnel.
 5. Notices for roadway interruption, work outside regular hours, and utility cut overs.
 6. Requests for Information (RFI).
 7. Construction progress Schedules and associated reports and updates.
 - a. Each schedule submittal specified in CONSTRUCTION PROGRESS DOCUMENTATION shall be submitted as a native backed-up file (.PRX or .STX)

of the scheduling program being used. The schedule will also be posted as a PDF file in the format.

8. Plans for safety, demolition, environmental protection, and similar activities.
 9. Quality Control Plan(s), Testing Plan and Log, Quality Control Reports, Production Reports, Quality Control Specialist Reports, Preparatory Phase Checklist, Initial Phase Checklist, Field Test reports, Summary reports, Rework Items List, etc.
 10. Meeting minutes for quality control meetings, progress meetings, pre-installation meetings, etc.
 11. Any general correspondence submitted.
- G. Compliance Submittals
1. Test reports, certificates, and manufacture field report submittals shall be submitted on **Procore** as PDF attachments. Examples of compliance submittals include, but are not limited to:
 - a. Field test reports.
 - b. Quality Control certifications.
 - c. Manufacturer's documentation and certifications for quality of products and materials provided.
- H. Record and Closeout Submittals
1. Operation and maintenance data and closeout submittals shall be submitted on **Procore** as PDF documents during the approval and review stage as specified, with actual set of documents submitted for final. Examples of record submittals include, but are not limited to:
 - a. Operation and Maintenance Manuals: Final documents shall be submitted as specified.
 - b. As-built Drawings: Final documents shall be submitted as specified.
 - c. Extra Materials, Spare Stock, etc.: Submittal forms shall indicate when actual materials are submitted.
- I. Financial Submittals
1. Schedule of Value, Pay Applications and Change Request Proposals shall be submitted on **Procore**. Supporting material for Pay Applications and Change Requests shall be submitted on **Procore** as PDF attachments. Examples of compliance submittals include, but are not limited to:
 - a. Contractors Schedule of Values
 - b. Contractors Monthly Progress Payment Requests
 - c. Contract Change proposals requested by the project owner

END OF SECTION

SECTION 01 3200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Construction Progress Schedule
- B. Construction Manager's Construction Schedule
- C. Submittal Schedule
- D. Daily Construction Reports
- E. Progress Photographs

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 CONSTRUCTION MANAGER'S MASTER CONSTRUCTION SCHEDULE

- A. Upon award of package, Contractor agrees to accept and meet or improve upon the schedule proposed in section **00 3113 PRELIMINARY SCHEDULE** with intermediate handoffs. Each package contractor will be required to participate in schedule coordination meetings with the Construction Manager.
- B. If the bid package contractor does not meet the handoff milestones in the master construction schedule, the bid package contractor shall take measures to increase work forces, increase work hours, initiate revisions to means and methods of construction, and/or other similar measures as required to make up lost time and complete the work in accordance with the construction schedule and remain consistent with project progress and overall construction schedule. Such measures shall be at no additional cost to the Owner. The Construction Manager shall have sole discretion on decisions to accelerate work.
- C. Updating the master construction schedule – Contractors are required to attend and participate in schedule coordination update meetings with the Construction Manager. This will be an opportunity for contractors to further define their scheduled scope of work in conjunction with other trades on site.
- D. Acceptance of revised master construction schedule – After an updated master construction schedule has been issued via Procore, Contractors will have 48 hours to dispute the new schedule. All contractors will be held to the last fully accepted master construction schedule.

3.02 CONSTRUCTION PROGRESS SCHEDULE

- A. Submit preliminary outline to the Construction Manager no later than 48 hours prior to the pre-construction meeting for coordination with Owner's requirements.
- B. Submit revised progress schedule with each application for payment.
- C. Schedules will be electronically submitted through Procore.
- D. Distribute copies of reviewed schedules to project site file, subcontractors, suppliers, and other concerned parties.
- E. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- F. Submit computer generated horizontal bar chart with separate line for each major portion of work or operation, identifying the first day of each week.

- G. Show complete sequence of construction activity, identifying work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.
- H. Indicate estimated percentage of completion for each item of work at each submission.
- I. Participate in joint review and evaluation of schedule with Construction Manager.
- J. Revisions to schedules:
 - 1. Indicate progress of each activity to date of submittal and projected completion date of each activity.
 - 2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
 - 3. Prepare narrative report to define problem areas, anticipate delays, and impact on schedule. Report corrective action taken, or proposed, and its effect including effect of changes on schedules of separate contractors.

3.03 **SUBMITTAL SCHEDULE**

- A. Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, re-submittal, ordering, manufacturing, fabrications, and delivery when establishing dates.
 - 1. Coordinate submittal schedule with list of subcontractors, the schedule of values, and construction schedule.
 - 2. Submit concurrently with first complete submittal of contractor's construction schedule.

3.04 **DAILY CONSTRUCTION REPORTS**

- A. Daily Construction Reports: Submitted at weekly intervals.
 - 1. Daily Construction Reports will be submitted to Construction Manager.
- B. Prepare a daily construction report recording the following information concerning events at project site:
 - 1. Count of personnel at Project site
 - 2. Equipment at Project site
 - 3. Material Deliveries
 - 4. High and low temperatures and general weather conditions, including presence of rain or snow
 - 5. Accidents
 - 6. Meetings and significant decisions
 - 7. Unusual events
 - 8. Stoppages, delays, shortages, and losses
 - 9. Meter readings and similar recordings
 - 10. Emergency procedures
 - 11. Orders and requests of authorities having jurisdiction
 - 12. Change orders received and implemented
 - 13. Services connected and disconnected
 - 14. Equipment or system tests and startups
 - 15. Partial completions and occupancies
 - 16. Substantial completions authorized

3.05 **PROGRESS PHOTOGRAPHS**

- A. Progress photographs will be electronically submitted through Procore.
- B. Preconstruction Photographs: Before starting construction, take photographs of project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Construction manager.
 - 1. Take additional photographs as required to record existing damage to site, structure, equipment, or finishes.
- C. Periodic Construction Photographs: Take photographs at regular intervals. Select vantage points to show status of construction and progress since last photographs were taken.
- D. Field Completion Construction Photographs: Take photographs after date of Substantial Completion for submission as project record documents. Construction manager will inform of desired vantage points.

END OF SECTION

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SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Submittals for Review
- B. Submittals for Information
- C. Submittal Procedures
- D. Samples

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 - 1. Product Data
 - 2. Shop Drawings
 - 3. Samples for Selection
 - 4. Samples for Verification
- B. Submit to Construction Manager to forward to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed only for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record document purposes.

3.02 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. Certificates.
 - 3. Test reports.
 - 4. Inspection reports.
 - 5. Manufacturer's instructions.
 - 6. Manufacturer's field reports.
 - 7. Other types indicated.
- B. Submit for Construction Manager, Architect, and Owner's knowledge. No action will be taken.

3.03 SUBMITTAL PROCEDURES

- A. Submittals will be electronically submitted through Procore. Contractor will be invited to join web based program after issue of Notice of Intent to award.
- B. Shop Drawing Procedures:
 - 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the

- Contract Documents and coordinating related Work.
2. Do not reproduce the Contract Documents to create shop drawings.
 3. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
- C. Transmit each submittal with a copy of approved submittal form.
 - D. Sequentially number the submittal form. Revise submittals with original number and a sequential numeric suffix.
 - E. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
 - F. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
 - G. Schedule submittals to expedite the project and coordinate submission of related items.
 - H. For each submittal review, allow 15 days excluding delivery time to and from the contractor.
 - I. Identify variations from the Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
 - J. When revised for resubmission, identify all changes made since previous submission.
 - K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
 - L. Submittals not requested will not be recognized or processed.

3.04 **SAMPLES**

- A. Submit to Construction Manager to forward to Architect/Engineer for review for limited purpose for checking conformance with information given and design concept expressed in the Contract Documents.
- B. Samples for selection as specified in product sections:
 1. Submit to Construction Manager to forward to Architect/Engineer for aesthetic, color, or finish selections.
 2. Submit samples of finishes from full range of manufacturer's standard colors, textures, and patterns to Construction Manager to forward to Architect/Engineer for selection.
- C. Submit samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full project information.
- E. Submit number of samples specified in individual specification sections.
- F. Photograph of submitted samples, along with transmittal sheet, shall be uploaded as a submittal in Procore.

END OF SECTION

SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. References
- B. Quality assurance and control of installation
- C. Tolerances
- D. Defect Assessment
- E. Inspection and testing laboratory services
- F. Manufacturer's field services and reports

1.02 REFERENCES

- A. Conform to reference standard in effect at date of contract.
- B. When required by contract documents, obtain copies of standards.
- C. Should specified reference standards conflict with contract documents request clarification from engineer before proceeding.
- D. The contractual relationship of the parties to the contract shall not be altered from the contract documents by mention or inference otherwise in any reference document.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of specified quality.
- B. Comply fully with manufacturer's instructions, including each step in sequence.
- C. Should manufacturer's instructions conflict with contract documents, request clarification from the engineer prior to proceeding.
- D. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stress, vibration, physical distortion, or disfiguration.

3.02 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with contract documents, request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.03 DEFECT ASSESSMENT

- A. Replace work or portions of work not conforming to specified requirements.

- B. If, in the option of the Owner, it is not practical to remove and replace the work, Architect will direct an appropriate remedy or recommend adjusted payment.

3.04 INSPECTION AND TESTING

- A. Owner shall include and pay for all required special inspections and testing required by IBC Section 1705, if applicable. This does not include inspections and testing required by other specification sections in this Project Manual. Copies of all testing and inspection reports shall be submitted to the Construction Manager and Design Professional by the testing and inspection agency.
- B. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Architect, Construction Manager, and contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of contract documents.
 - 4. Immediately notify the Construction Manager and contractor of observed irregularities or non-conformance of work or products.
 - 5. Perform additional testing and inspections required by the Owner
- C. Limits on Testing Agency/Inspection Agency Authority:
 - 1. Agency may not release, revoke, alter, or enlarge on requirement of contract documents.
 - 2. Agency may not approve or accept any portion of the work.
 - 3. Agency may not assume any duties of the contractor.
 - 4. Agency has no authority to stop the work.
- D. Contractor responsibilities:
 - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 - 2. Cooperate with laboratory personnel, and provide access to the work and to manufacturer's facilities.
 - 3. Provide incidental labor and facilities:
 - a. To provide access to work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of products to be tested/inspected.
 - c. To facilitate test/inspections.
 - d. To provide storage and curing of test samples.
 - 4. Notify Construction Manager and laboratory 24 hours prior to expected time for operations requiring testing/inspection.
- E. Re-testing required because of non-conformance to specified requirements shall be performed by the same testing agency on instruction by Architect/Construction Manager.
- F. Re-testing required because of non-conformance to specified requirements shall be paid for by the Contractor.

3.05 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start up of equipment, test, adjust and balance of equipment as applicable and to initiate instructions when necessary.
- B. Individuals are to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to the manufacturers' written instructions.
- C. Submit report in duplicate within 30 days of observation to Construction Manager for review.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Temporary Utilities
- B. Temporary Sanitary Facilities
- C. Telephone Service
- D. Removal of Utilities, Facilities, and Controls
- E. Temporary Facilities
- F. Equipment
- G. Vehicular Access and Parking
- H. Traffic Regulation
- I. Barriers
- J. Enclosures and Fencing
- K. Waste Removal

1.02 TEMPORARY UTILITIES

- A. Owner will provide the following:
 - 1. Water Supply, consisting of connection to existing facilities.
- B. The Contractor shall pay for installation, maintenance, and removal of temporary utilities. Temporary utilities shall not disrupt the Facility's need for continuous service.
- C. **Electrical power is to be provided by the contractor.**

1.03 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.
- C. Provide quantity of sanitary facilities for construction personnel.
- D. The use of the facility restrooms is not allowed.

1.04 TELEPHONE SERVICE

- A. Provide, maintain, and pay for telephone service to field or use a cellular telephone.

1.05 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

- A. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 - PRODUCTS

2.01 TEMPORARY FACILITIES

- A. Field Offices: Coordinate with Construction Manager and Owner if applicable.

2.02 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated, with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.01 VEHICULAR ACCESS AND PARKING

- A. Use designated existing on-site roads for construction traffic.
- B. Parking is as directed by Owner.
- C. Use of designated existing on-site streets and driveways used for construction traffic is permitted. Track vehicles not allowed on paved areas.
- D. Use of designated areas of existing parking facilities used by construction personnel as permitted. Contractors to use public street parking.
- E. Do not allow heavy vehicles or construction equipment in parking areas.
- F. Provide and maintain access to fire hydrants, free of obstructions.
- G. Provide means of removing mud from vehicle wheels before entering streets.

3.02 TRAFFIC REGULATION

- A. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.
- B. Flares and lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.
- C. Haul Routes:
 - 1. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.
- D. Removal:
 - 1. Remove equipment and devices when no longer required.
 - 2. Repair damage caused by demolition.

3.03 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for Owner's use of site and to protect existing facilities and adjacent properties from damage during construction operations.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

3.04 ENCLOSURES AND FENCING

- A. Provide temporary enclosure and fences as necessary to protect the public and secure the site.
- B. Provide overhead protection at entrance doorways as called for on the drawings and/or by OSHA regulations. All entrance doors shall remain accessible to the owner at all times.

3.05 WASTE REMOVAL

- A. Except for items or materials to be salvaged, recycled or otherwise reused, remove waste materials from project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Waste Disposal Facilities: Provide waste collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. General product requirements
- B. Product options
- C. Maintenance materials
- D. Transportation and handling
- E. Storage and protections

PART 2 - PRODUCTS

2.01 GENERAL PRODUCT REQUIREMENTS

- A. Provide new products unless specifically required or permitted by the contract documents.
- B. Do not use products having any of the following characteristics:
 - 1. Made using or containing CFC's or HCFC's
 - 2. Made of wood from newly cut old growth timber.
- C. Where all other criteria are met, contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions
 - 2. If wet-applied, have lower VOC content
 - 3. Are extracted, harvested, and/or manufactured closer to the location of the project
 - 4. Have longer documented life span under normal used
 - 5. Result in less construction waste
 - 6. Are made of vegetable materials that are rapidly renewable

2.02 PRODUCT OPTIONS

- 1. Products specified by reference standards or by description only: Use of any product meeting those standards or description.
- 2. Products specified by naming one or more manufacturers, with or without a provision for substitutions: Use a product of one of the manufacturers named and meeting specifications or submit a request for substitution for any manufacturer not named by the date specified in this project manual. Substitution requests shall be emailed to the Issuing Officer at the email address provided in Instructions to Bidders Section 1.04.

2.03 MAINTENANCE MATERIALS

- 1. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- 2. Deliver to project site; obtain receipt prior to final payment.

PART 3 - EXECUTION

3.01 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.02 STORAGE AND PROTECTIONS

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to the product.
- E. For exterior storage of fabricated products, place on slopped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturers' warranty conditions, if any.
- H. Cover product subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 7300

EXECUTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures
- B. Alteration project procedures
- C. Cutting and patching
- D. Cleaning and protection
- E. Adjusting

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 EXAMINATION, PREPARATION, AND GENERAL INSTALLATION PROCEDURES

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misproduction.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to cutting: Examine existing conditions prior to commencing work; include elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.
- G. Clean substrate surfaces prior to applying next material or substance.
- H. Seal cracks or openings of substrate prior to applying next material or substance.
- I. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.
- J. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- K. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- L. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- M. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- N. Make neat transitions between different surfaces, maintaining texture and appearance.

3.02 ALTERATION PROJECT PROCEDURES

- A. Materials: As specified in product sections match existing products and work for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished work.
- E. Remove, cut and patch work in a manner to minimize damage and to provide a means of restoring products and finished to original condition.

- F. Remove debris and abandoned items from area and from concealed spaces.
- G. Refinish visible existing surfaces to remain in renovated rooms and spaces to specified condition for each material with a neat transition to adjacent finishes.
- H. Where new work abuts or aligns with existing, perform a smooth and even transition. Patched work to match existing adjacent work in texture and appearance.
- I. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line of division and make recommendation to the Construction Manager. Prior to cutting get the Owner's approval.
- J. Where change of plane of ¼ inch or more occurs, submit recommendation for providing smooth transition to the Construction Manager for review.

3.03 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements which affect:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of owner or separate contractor.
- C. Execute cutting, fitting, and patching to complete work, and to:
 - 1. Fit the several parts together, to integrate with other work.
 - 2. Uncover work to install or correct ill-timed work.
 - 3. Remove and replace defective and non-conforming work.
 - 4. Remove samples of installed work for testing.
 - 5. Provide openings in elements of work for penetrations of mechanical and electrical work.
- D. Execute work by methods to avoid damage to other work and which will provide proper surfaces to receive patching and finishing.
- E. Cut rigid materials using masonry saw or core drill.
- F. Cut masonry and concrete materials using masonry saw or core drill.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work tight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- I. Maintain integrity of wall, ceiling or floor construction; completely seal voids.
- J. Refinish surfaces to match adjacent finishes. Refinish to nearest intersection for continuous surfaces. Refinish entire unit for continuous surfaces for an assembly.
- K. Identify hazardous substances or conditions exposed during the work to the engineer for decision or remedy.

3.04 CLEANING AND PROTECTION

- A. Progress cleaning
 - 1. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
 - 2. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.
- B. Protection of installed work
 - 1. Protect installed work from damage by construction operations.
 - 2. Provide special protection where specified in individual specification sections.
 - 3. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
 - 4. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.
 - 5. Prohibit traffic from landscaped areas.

3.05 ADJUSTING

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

END OF SECTION

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SECTION 01 7700

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Inspections
- B. Substantial Completion
- C. Project Record Documents
- D. Warranties
- E. Operations and Maintenance Manuals
- F. Operations and Maintenance Data for Materials and Finishes
- G. Operations and Maintenance Data for Equipment and Systems
- H. Training
- I. Final Completion
- J. Maintenance

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 INSPECTIONS

- A. Ensure all state inspections have been completed by the authority having jurisdiction.
- B. Upload documentation of all test/inspections to Procore.
- C. Submit a written request for inspection of Substantial Completion. On receipt of request, The Design Professional will either proceed with inspection or notify contractor of unfulfilled requirements. The Design Professional will prepare the Certificate of Substantial Completion after inspection or will notify contractor of items, either on contractor's list or additional items identified by architect that must be completed or corrected before certificate will be issued.
 - 1. Re-inspection: Request re inspection when the work identified in previous inspections as incomplete is completed or corrected.
 - 2. Results of completed inspection will form the basis of requirements for Final Completion.

3.02 SUBSTANTIAL COMPLETION

- A. A substantial completion checklist is attached for reference following this specification section.
- B. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to the Construction Manager through upload to Procore.
- C. Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Submit written certification that contract documents have been reviewed, work has be inspected, and that work is completed in accordance with contract documents and ready for review
 - 2. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the work has not been completed.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Make final changeover of permanent locks and deliver key to the owner. Advise owner's personnel of changeover in security provisions.
 - 5. Complete startup testing of systems.
 - 6. Submit test/adjust, balance records.

7. Terminate and remove temporary facilities from project site, along with mockups, construction tools, and similar elements.
8. Advise owner of changeover in heat and other utilities.
9. Submit changeover information related to owner's occupancy, use, operation, and maintenance.
10. Complete final cleaning requirements, including touch up painting.
11. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

3.03 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the work:
 1. Drawings
 2. Specifications
 3. Addenda
 4. Change orders and other modifications to the contract
 5. Reviewed shop drawings, product data, and samples
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 1. Manufacturer's name and product model and number.
 2. Product substitutions or alterations utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings:
 1. Measured depths of foundations in relation to finish first floor datum.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the work.
 4. Field changes of dimension and detail.
 5. Details not on original contract drawings.
- G. Record Drawings shall be uploaded to Procore in pdf format.

3.04 WARRANTIES

- A. Submit written warranties for designated portions of the work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Submit properly executed warranties in Procore prior to Final Completion.
- C. Verify that documents are in proper form, contain full information, and are notarized.
- D. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- E. Include warranties in operation and maintenance manuals.
- F. Items of work delayed beyond date of Substantial Completion, provide updated submittal after acceptance by Owner, listing date of acceptance as start of warranty period

3.05 OPERATIONS AND MAINTENANCE MANUALS

- A. Format: Submit operations and maintenance manuals in the following format:
 1. Portable Document Format (PDF) electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Owner and upload to Procore.

- a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
2. Assemble with data arranged in the same sequence as, and identified by the specification sections. Where systems involve more than one specification section, provide separate index for each system.
3. Include project directory listing title and address of project, names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
4. Include Table of Contents listing every item separated by index and specification section.
- B. Source Data: For each product or system, list names, addresses, and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use project record documents as maintenance drawings.
- E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.06 OPERATIONS AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For each product, applied material, and finish:
 1. Product data, with catalog number, size, composition, and color and texture designations.
 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.
- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specified products.

3.07 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For each item of equipment and each system:
 1. Description of unit or system, and component parts
 2. Identify function, normal operating characteristics, and limiting conditions
 3. Include performance curves, with engineering data and tests
 4. Complete nomenclature and model number of replacement parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specified products.
- C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- D. Include color coded wiring diagrams as installed.
- E. Operating procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

- F. Maintenance requirements: Include routine procedure and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- G. Provide servicing and lubrication schedule and list of lubricants required.
- H. Include manufacturer's printed operation and maintenance instructions.
- I. Include sequence of operation by controls manufacturer.
- J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- K. Provide control diagrams by controls manufacturer as installed.
- L. Provide contractor's coordination drawings, with color coded piping diagrams as installed.
- M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- N. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- O. Include test and balancing reports.
- P. Additional requirements: As specified in individual specification sections.

3.08 TRAINING

- A. Demonstrate operations of systems, subsystems, and equipment.
- B. Train in operation and maintenance of systems, subsystems, and equipment
- C. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- D. Submit written agenda to Construction Manager for approval prior to scheduling training.
- E. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

3.09 FINAL COMPLETION

- A. A final completion checklist is attached for reference following this specification section.
- B. Before requesting final inspection for determining date of Final Completion, complete the following:
 - 1. Complete punch list items.
 - 2. Prepare and submit project record documents, operation and maintenance manuals, damage or settlement surveys, and similar final record information.
 - 3. Deliver tools, spare parts, extra materials, and similar items to location designated by owner. Label with manufacturer's name and model number where applicable.
 - 4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
 - 5. All trailers, construction signs, unused, broken or demolition materials have been removed from the site and the premises returned to the original condition in the opinion of the Owner and Design Professional.
 - 6. Submit a final Application for Payment (retainage).
- C. Upon receipt of final payment complete final completion certificate in Procore.

END OF SECTION

Substantial Completion Project Checklist

Date: _____

DAS Project Number: _____

Project Title: _____

Location: _____

Contractor: _____

In order to process the 99% payment (100% pay app less closeout and retainage) on a Capital Project, the Department of Administrative Services needs the following information. Please complete this form and obtain the necessary documents.

Have all state inspections been completed and documentation uploaded to Procore?
(Including but not limited to the following inspections)

- Boiler Inspection** Yes No N/A
- Water Heater Inspection** Yes No N/A
- Energy Code Inspection** Yes No N/A
- Building Code Inspection** Yes No N/A
- Electrical Inspection** Yes No N/A
- Elevator Inspection** Yes No N/A
- Other:** _____ Yes No N/A

Occupancy Permit if applicable

Test and Balance has been performed

Certificate of Substantial Completion in Procore (Consensus Docs 814)

Are there any disputes with the above mentioned vendor which need resolution?

Yes (provide description below) **No**

Can payment (less closeout and retainage) be released? **Yes** **No**

Final Completion Project Checklist

Date: _____

DAS Project Number: _____
Project Title: _____
Location: _____
Contractor: _____

In order to process the 100% payment and Retainage payment on a Capital Project, the Department of Administrative Services needs the following information. Please complete this form and obtain the necessary documents.

Have all Warranties been received? Yes No

Have you received the Operations and Maintenance Manuals? Yes No

Who is in possession of the O & M Manuals? _____

Has all training been completed? Yes No

Have all as-built drawings been scanned and uploaded into Procore? Yes No

Have electronic drawing/specification files been transferred to DAS? Yes No

Have all punchlist items been corrected? Yes No

573 Notification (*To be obtained from the general contractor*): Copy of general contractor’s notification of application for retainage to all subcontractors and suppliers. General contractor must follow IAC 26 section 23.13.2.

AIA Form G706 – Contractor’s Affidavit of Payment of Debts and Claims

AIA Form G706A – Contractor’s Affidavit of Release of Liens

AIA Form G707 – Consent of Surety Company to Final Payment

Certificate of Final Completion in Procore (Consensus Docs 815)

Are there any disputes with the above mentioned vendor which need resolution?

Yes (provide description below) No

Can 100% payment and retainage payment be released? Yes No

SECTION 02 08 10
DEMOLITION OF FRIABLE ASBESTOS-CONTAINING
ROOFING MATERIALS (ACRM)

INDEX

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- 1.2 Applicable Documents and References
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- 1.4 Air Sample Analysis
- 1.5 Air Sample Test Results

PART II - EQUIPMENT AND MATERIALS

- 2.1 Personnel Protection Requirements and Equipment
- 2.2 Waste Containers

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- 3.1 Verification of Existing Conditions
- 3.2 Posting of the Project
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- 3.4 Work Area Preparation
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- 3.7 Removal Procedures - General
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- 3.9 Temporary Watertight Construction
- 3.10 Disposal Procedures
- 3.11 Transportation of Asbestos Waste
- 3.12 Disposal at the Landfill
- 3.13 Final Cleaning
- 3.14 Recordkeeping

PART I - GENERAL

1.1 SCOPE

- A. The work includes providing all materials, labor, tools, equipment, transportation, etc., necessary to remove the asbestos containing roofing materials (ACRM) membrane material and/or base flashing and as shown on the Contract Drawings. The work consists of, but is not limited to, the following:
 - 1. Prepare and submit Pre-Abatement Submittals.
 - 2. Coordinate activities with other contractors.
 - 3. Removal of non-friable (intact) asbestos containing roof materials.
 - 4. Disposal.
 - 5. Prepare and submit waste manifest and other associated documents prior to project closeout.

SECTION 02 08 10
DEMOLITION OF FRIABLE ASBESTOS-CONTAINING
ROOFING MATERIALS (ACRM)

- B. It shall be the responsibility of the contractor to ascertain all quantities and conditions that affect cost for the removal and disposal of asbestos-containing materials.
- C. This section applies to demolition of ACRM roof material with use of any sawing, sanding, cutting, grinding or abrasion operation.

1.2 APPLICABLE DOCUMENTS AND REFERENCES

- A. Title 40, Code of Federal Regulations, Part 61, Subparts A and M (Revised Subpart B), National Emission Standards for Hazardous Air Pollutants, U.S. Environmental Protection Agency (EPA).
- B. Title 29, Code of Federal Regulations, Parts 1910.1001, Asbestos Regulations for General Industry (OSHA).
- C. Other Guidelines, Codes, or Documents:
 - 1. U.S. Department of Transportation (DOT) Hazardous Materials Regulations, Code of Federal Regulations Title 49.
 - 2. U.S. Department of Environmental Protection Agency, Office of Solid Wastes publication "Asbestos: Waste Management Guidance" (EPA/520-SW-85-007).
 - 3. Agencies:
 - a. Bureau of Labor - State of Iowa
Department of Labor
1000 East Grand Avenue
Des Moines, IA 50319
 - b. EPA - Environmental Protection Agency
U.S. EPA Region 7
324 East 11th Street
Kansas City, MO 64106
 - c. IDNR - Iowa Department of Natural Resources
Program Operations Division
Henry A. Wallace Building
900 East Grand Avenue
Des Moines, IA 50319
 - d. NIOSH - National Institute for Occupational Safety and Health
 - e. NESHAP - National Emission Standards for Hazardous Air Pollutants
Air and Toxic Management Division
U.S. EPA Region 7
Kansas City, MO 64106

SECTION 02 08 10
DEMOLITION OF FRIABLE ASBESTOS-CONTAINING
ROOFING MATERIALS (ACRM)

1.3 AGENCY NOTICES

- A. The contractor will file the appropriate notification in accordance with State and Federal regulations (40 CFR 61, Subpart M) for removal of any friable (non-intact). ACRM. Refer to Section 01300, Submittals.
- B. Contractor shall comply with the advance waiting period before the start of any removal activity of friable (non-intact) ACRM.

1.4 AIR SAMPLE ANALYSIS (IF NO HISTORICAL DATA SUBMITTED)

- A. An independent testing laboratory shall perform, interpret, and report the results of the testing, if required, described in this section. Samples for this project shall be analyzed using Phase Contrast Microscopy.
- B. Costs for quality control tests prior to abatement shall be borne by the Owner. Costs for personal zone air sample testing shall be borne by the contractor.

1.5 AIR SAMPLE TEST RESULTS

- A. If contractor's air sample or owner's air sample test results are greater than 0.05 f/cc are encountered, the work shall be terminated and the methods and procedures for the removal process shall be revised to the satisfaction and approval of the Consultant prior to the continuation of the project.

PART II - EQUIPMENT AND MATERIALS

2.1 PERSONNEL PROTECTION REQUIREMENTS AND EQUIPMENT FOR FRIABLE ACRM

- A. Prior to commencement of work, the workers shall be instructed and shall be knowledgeable that the work requires the removal of asbestos-containing materials and that special removal procedures are required.
- B. If it is required by OSHA regulations, as a minimum, that half mask negative air respirators with HEPA filters and protective clothing be provided to the workers during the removal of the asbestos-containing materials.
- C. All electrical systems shall be protected with "Ground Fault Circuit Interrupters" selected and installed in strict accordance with the manufacturer's instructions.

2.2 WASTE CONTAINERS

- A. Disposal bags shall be impermeable 6-mil polyethylene with pre-painted warning label as required by 29 CFR 1910.12:

DANGER!
CONTAINS ASBESTOS FIBER
AVOID CREATING DUST
CANCER & LUNG DISEASE HAZARD

- B. Disposal drums shall be metal or fiberboard with locking ring tops. Contractor to verify acceptance of disposal drums at disposal site prior to abatement activities.

SECTION 02080
DEMOLITION OF NON-FRIABLE ASBESTOS-CONTAINING
ROOFING MATERIALS (NFACRM)

Drums shall have warning labels as defined by 29 CFR 1910.12.

PART III - EXECUTION

3.1 VERIFICATION OF EXISTING CONDITIONS

- A. Before starting an activity within the work area, investigate the work area to determine any existing problems. It shall be the responsibility of the Contractor to take photographs of all damaged areas to document the pre-abated condition.
- B. An evaluation of the roofing structure should be made to ascertain that the weight to be added to the roof during repair and renovation can be supported by that structure. If additional support is warranted, such must be provided before the start of ACM-related work, to avoid potential harm to the building occupants and workers from a collapsing roof.

3.2 POSTING OF THE PROJECT (IF REQUIRED BY OSHA)

- A. Post warning signs near and around the removal area especially near roof entrance/exits and near dumpsters. Warning signs shall bear the following information:

DANGER - ASBESTOS!
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY!

3.3 SEPARATION OF WORK AREAS FROM NON-WORK AREAS

- A. The entire work shall be barricaded for restricted access. Roof penetrations shall be sealed. These seals shall include, but not be limited to, all openings, doorways, windows, ducts, chases, diffusers, pipe penetrations, vents, and grilles. Seal these using tape, 6 mil plastic sheeting and caulking, where required.
- B. Any dust that does filter to the inside of the building shall be removed by the Contractor using proper AHERA methods. Any additional air monitoring and testing costs for such an operation shall be paid by the Contractor.

3.4 WORK AREA PREPARATION

- A. Shut down and lock out electric power to all areas. Provide temporary power if required. Verify safe installation (including ground faulting) of temporary power sources and equipment by compliance with all applicable electrical code requirements and OSHA requirements for temporary electrical systems. Costs for temporary connections shall be the responsibility of the Contractor.
- B. The Contractor shall make arrangements for the use of sanitary facilities with the Owner. Abatement personnel shall maintain the facilities in a clean and sanitary condition throughout the project.
- C. The Owner will provide water for construction purposes. Contractor shall connect to existing Owner approved system.

SECTION 02080
DEMOLITION OF NON-FRIABLE ASBESTOS-CONTAINING
ROOFING MATERIALS (NFACRM)

- D. Shut down and lock out all heating, cooling, and air conditioning system (HVAC) components that are in, supply or pass through the work area. The air intake will be isolated from all possible sources of roofing ACM contamination prior to the start of ACM-related work. Air discharges of loose materials that may derive from the anticipated roofing ACM work. Alternatively, the mechanical systems can be shut down and all outside vents sealed off.
- E. An evaluation of other building systems shall be made by the Contractor prior to the start of ACM-related work to minimize the likelihood of ACM dust accumulating in undesirable locations. Air vents from/to kitchen sites are examples easily overlooked. Coordination with the Building Owner's operating personnel before shutting down various systems is essential. The possibility of unexpected events (such as rain) must be anticipated through the evaluation.

3.5 ROOF PROTECTION

- A. The Contractor shall be responsible for the protection of the existing roof system that is not being abated. The Contractor shall protect the roof & underlying insulation from water damage, scaffold wheels, ladder feet, etc., by adding protective layers of canvas drop cloths, plywood, heavy cardboard, or similar materials.
- B. The roof water drainage system must be kept intact in the event of a rainstorm. It is recommended that water going down drains be filtered. Under normal procedures recommended for roofing abatement work, there should never be an intentional discharge of contaminated water through a drainage system. There should never be an accumulation of enough water on the roof (added from the work procedures) to cause a runoff to a roof drain.

3.6 WORKPLACE ENTRY AND EXIT PROCEDURES

- A. All personnel, before entering the work area, shall read and be familiar with all posted regulations and personal protection requirements (including workplace entry and exit procedures).
- B. All personnel shall don respiratory protection (as deemed adequate for the job conditions) and disposable coveralls, head covering, and foot covering upon entering the work area. Hard hats, eye protection, and gloves shall be utilized if required. Clean respirators and protective clothing shall be provided and utilized by each person for each separate entry into the work area.
- C. Personnel wearing designated personal protective equipment shall proceed directly to the main area.
- D. Before leaving the work area, all personnel shall remove visible contamination from the outside of respirators, protective clothing, and footwear by HEPA vacuum brushing and/or wet wiping procedures. (Small HEPA vacuums with brush attachments may be utilized for this purpose, however, larger machines may tear the suits.)
- E. Deposit disposable clothing into appropriately labeled containers for disposal.

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ROOFING MATERIALS (NFACRM)

3.7 REMOVAL PROCEDURES - GENERAL

- A. Compliance with all applicable Federal, State, and Local regulations and use of the best available technology, procedures, and methods for removal are absolutely required. This compliance, and the compliance with all product and procedure royalties, is the sole responsibility of the Contractor.
- B. Personnel shall wear protective clothing and respiratory protection during the removal and handling of the asbestos-containing materials.
- C. Wet asbestos containing material with an amended water solution using equipment capable of providing a fine spray mist, to reduce airborne fiber concentrations when the material is disturbed. Moisten the material to the substrate, however, do not allow excessive water to accumulate in the work area. Keep all removed material wet enough to prevent fiber release until it can be containerized for disposal. Mist or spray the materials to be abated to assist in fiber settling and reduce airborne concentrations. Wetting procedures are not equally effective on all types of asbestos containing materials but shall none-the-less be used in all cases.
- D. Moistened asbestos-containing material shall be removed in manageable sections. Removed material should be containerized before moving to a new location for continuance of work. Surrounding areas shall be periodically sprayed and maintained in a wet condition until visible material is cleaned up.
- E. Containers (6-mil polyethylene bags or drums) shall be sealed when full. Double bagging of waste material is required or double bags must be made. Bags shall not be overfilled. They should be securely sealed to prevent accidental opening and leakage by tying tops of bags in an overhand knot or by taping in gooseneck fashion. Do not seal bags with wire or cord. Bags may be placed in drums for staging and transportation to the landfill. Bags shall be decontaminated on exterior surfaces by wet cleaning and HEPA vacuuming before being placed in drums and sealed with locking ring tops.
- F. Large components removed intact may be wrapped in two layers of 6-mil polyethylene sheeting secured with tape for transport to the landfill.
- G. Asbestos-containing waste with sharp-edged components (e.g., nails, screws, metal lath, tin sheeting) will tear the polyethylene bags and sheeting and shall be placed into drums for disposal.
- H. After completion of all stripping work, surfaces from which asbestos containing materials have been removed shall be wet brushed and sponged clean or cleaned by some equivalent method to remove all visible residue.
- I. Lower sealed asbestos-containing waste from the roof to ground level storage carefully. **DO NOT THROW SEALED WASTE CONTAINERS FROM ANY HEIGHT.**
- J. Make sure the ground is protected and no debris is left after the job is complete. Have a HEPA filtered vacuum to clean up any spills or fibers that may be released.

3.8 ACM REMOVAL OPERATIONS

- A. ACM-related work begins with the careful cutting of the roof membrane and flashing containing asbestos. The existing insulation below the roofing membrane is to remain to aid drainage of the roof. Engineering controls must be used to prevent the emitting of visible dust from the cutting operation.

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1. Physical barriers, such as the hood over a saw blade, must be used to control dust.
 2. Use of hand tools, in lieu of power saws, should be recognized as effective controls. Hand tools should be used to remove flashing material in most all cases.
 3. Wetting (with an amended water solution containing 2 ounces of a surfactant per gallon of water) an area of the roof immediately prior to its sawing is a required control method.
 4. HEPA vacuuming during a cutting operation, providing a suction of dust from within the blade hood, is an acceptable method, one which may prove to be essential in some operating conditions to control visible dust.
 5. Use of a sealant to capture dust and fix raw edges, those created by a saw blade or by hand tools, will be required prior to the handling of pieces of the cut-up roofing membrane.
- B. Sawing and or cutting
1. A powered saw, one normally used in the roofing industry to cut roofing membranes, may be made acceptable by use of the above control methods. Any such saw used within this procedure must be of an enhanced design, one modified for asbestos-related work.
 2. The blade hood (or shroud) must provide for the complete enclosure of the cutting operation with such materials as needed to withstand its environmental conditions. Metal or heavy rubber/plastic shrouds might be considered useful.
The hood must accommodate the connection for and use of a HEPA vacuum system and extend as close to the deck as possible for operating purposes.
 3. A flexible "skirt" may be attached to the cutting surface if visible dust is not controlled by the above methods. This flexible material may require replacement frequently, due to the very rough surface against which it may be rubbed. The fitting of the skirt to minimize emissions is an artistic matter.
- C. HEPA vacuums must be sufficient to help stop the release of visible emissions, in consideration of other means used concurrently to suppress emissions.
- D. The roof material surface will be wetted with amended water before it is sawed. Spraying of amended water will proceed immediately in front of the saw as the sawing occurs. Mechanized or manual spraying may be used.
- E. Loose dust or debris left by the sawing operations will be HEPA vacuumed immediately following the sawing process, consistent with safety needs.
- F. A penetrating sealant will be sprayed along and into the kerf made by the saw blade in the composite roofing material. This spraying will follow behind the vacuuming the discussed above.
- G. The segments of roofing ACM cut by the saw will be carried to the disposal chute while its edges are still wet from the encapsulant spray. Any other ACM-related debris will be wetted and/or bagged as necessary for effective control and disposed of through the chute.

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ROOFING MATERIALS (NFACRM)

3.9 TEMPORARY WATERTIGHT CONSTRUCTION

- A. Prior to the end of each work shift or impending inclement weather, provide watertight construction to protect the exposed portions of the structure. The Contractor must coordinate and limit the amount of removal daily so that a watertight barrier can be placed for work abated.
- B. Contractor shall be responsible for maintaining temporary flashing and roofing in a watertight condition until permanent construction starts work on the roof. Any leakage or damage due to leakage due to insufficient temporary flashing shall be repaired and corrected by Contractor at his own expense.
- C. Contractor has option to schedule asbestos containing removal operation with reroofing operations to install permanent flashing and roofing materials to provide watertight conditions.

3.10 DISPOSAL PROCEDURES

- A. As the work progresses, to prevent exceeding available storage capacity on site, sealed and labeled containers of asbestos containing waste shall be removed and transported to the prearranged disposal location. Disposal must occur at a licensed landfill in accordance with regulatory requirements of NESHAP and applicable State and Local guidelines and regulations.
- B. Wrap such large and removed boards or other non-friable materials in plastic sheets or place in drums/dumpsters that are lined with two layers of 6 mil plastic sheeting. Asbestos waste will be lowered into the receptacle and not thrown from any height.
- C. Place the small pieces of broken NFACMs in sealed 6 mil lined and labeled drums or plastic bags.
- D. ACM may not be dropped from a higher roof area into an open truck or container. An enclosed chute may be used to transfer debris from the storage and transportation purposes. (Alternatively, a hoist system or a scissors-lift truck bed may be used, providing there are safeguards in place to prevent emissions from occurring from the handling required for the composite roofing segments and other ACM-related debris that may be bagged.
- E. All sealed and labeled containers of ACM are not to be left at ground level without being stored properly in an enclosed and locked vehicle.

3.11 TRANSPORTATION OF ASBESTOS WASTE

- A. Once drums, bags, and wrapped components have been removed from the roof work area, they shall be loaded into an enclosed truck for transportation. When moving containers, utilize hand trucks, carts, and proper lifting techniques to avoid back injuries. Trucks with lift gates are helpful for raising drums during truck loading.
- B. Vehicles used for transporting asbestos-containing materials to disposal sites shall have a completely enclosed storage compartment (no "open-bed" vehicles will be allowed).
- C. The enclosed cargo area of the truck shall be free of debris and lined with 6-mil polyethylene sheeting to prevent contamination from leaking or spilled containers.

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Floor sheeting shall be installed first and extend up the sidewalls. Wall sheeting shall be overlapped and taped into place.

- D. Drums shall be placed on level surfaces in the cargo area and packed tightly together to prevent shifting and tipping. Large structural components shall be secured to prevent shifting, and bags placed on top. Do not throw containers into truck cargo area.
- E. Any debris or residue if determined to contain asbestos above the prescribed OSHA limits, observed on containers or surfaces outside of the work area resulting from the abatement process shall be cleaned up with HEPA filtered vacuum equipment and/or wet methods as required.

3.12 DISPOSAL AT THE LANDFILL

- A. Upon reaching the landfill, trucks are to approach the dump location as closely as possible for unloading of the asbestos containing waste.
- B. Bags, drums, and components shall be inspected as they are off-loaded at the disposal site. Material in damaged containers shall be repacked in empty drums for all asbestos waste.
- C. Waste containers shall be placed on the ground at the disposal site, not pushed or thrown out of trucks.
- D. Following the removal of all containerized waste, the polyethylene sheeting shall be removed and discarded along with the bags or drums at the disposal site.

3.13 FINAL CLEANING

- A. Perform final cleaning of abatement area prior to roof construction.
- B. Clean or replace filters of existing rooftop ventilation equipment as required to provide assurance of uncontaminated area.
- C. Clean all debris from roof, drains, downspouts and gutters. All debris shall be considered as asbestos containing.
- D. Clean and sweep paved and lawn areas.
- E. Remove all waste and surplus materials, rubbish, storage containers and construction facilities from the site.

3.14 RECORDKEEPING

- A. Contractor shall provide to Consultant/Construction Manager/Owner all monitoring records during ACRM removal.
- B. Contractor shall document the disposal of all asbestos waste. The contractor shall complete the "Waste Shipment Record" form, or similar type form, for each load of waste delivered to the landfill.
- C. The original copies of the executed "Waste Shipment Record" form shall be delivered to the Consultant for the Owner's records.

END OF SECTION 02 08 10

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SECTION 06 10 53
ROUGH CARPENTRY

INDEX

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- 1.1 SCOPE OF THIS SECTION
- 1.2 DEFINITIONS
- 1.3 SUBMITTALS
- 1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

PART II - PRODUCTS

- 2.1 MATERIALS
- 2.2 GRADING
- 2.3 TREATMENT

PART III - EXECUTION

- 3.1 INSTALLATION
- 3.2 FIELD QUALITY CONTROL

PART I - GENERAL

1.1 SCOPE OF THIS SECTION

- A. Wood blocking, furring, grounds, curbs, nailers and other rough wood items.
- B. Exterior plywood and rough plywood used in concealed or semi-concealed areas.
- C. Rough hardware.

1.2 DEFINITIONS

- A. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. NeLMA: Northeastern Lumber Manufacturers' Association.
 - 2. NLGA: National Lumber Grades Authority.
 - 3. RIS: Redwood Inspection Service.
 - 4. SPIB: The Southern Pine Inspection Bureau.
 - 5. WCLIB: West Coast Lumber Inspection Bureau.
 - 6. WWPA: Western Wood Products Association.

1.3 SUBMITTALS

- A. Certification as requested by Engineer:
 - 1. Preservative treated wood: Submit certification that moisture content was reduced to 10% maximum, after treatment.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Immediately upon delivery to job site, place materials in area protected from weather.
- B. Store materials above ground and cover.
- C. Do not store seasoned materials in wet or damp portions of building.
- D. Protect sheet materials from corners breaking and damaging surfaces, while unloading.

SECTION 06 10 53
ROUGH CARPENTRY

PART II - PRODUCTS

2.1 MATERIALS

A. Rough Hardware:

1. Anchor bolts shall be steel complete with nuts and washers.
2. Lag bolts and miscellaneous bolts and screws shall be type, size and finish best suited for intended use.
3. Expansion shields shall be type and size best suited for intended use.
4. Nails and staples shall be size and type best suited for the purpose, in accordance with Fed Spec FF-N-105 when applicable to type used. Recommend nailer head to be 3/16" diameter, minimum.
5. Roofing nails for wood nailers shall be 11 gauge, barbed, zinc-coated nails with ⁷/₁₆ to 1-inch diameter heads. Nails shall be long enough to penetrate into the bottom wood nailer at least 1 ¼ inch.
6. Screws shall be minimum No.10 galvanized.
7. Fasteners for anchoring into concrete substrate for the parapet wall to be Simpson PHD hammer drive fastener or equal. Submit technical data sheet for fastener for approval by Engineer at pre-construction meeting.

B. Wood:

1. For items of dimension lumber size, provide Structural Grade No. 2, kiln dried (Southern Pine or Douglas Fir).
2. Blocking, grounds, nailing strips, sleepers, cant strips, nailers, roof opening curbs, and other non-stress graded members shall conform to the "National Grading Rule for Dimension Lumber" established in conformance with Section 10, Product Standard PS 20.
3. Wood blocking in contact with exterior concrete, exposed exterior wood, exterior masonry, or wood embedded in concrete shall be lumber treated with pressure preservative meeting AWPB LP-2.
4. Plywood shall be CDX ½-inch thick, exterior grade

2.2 GRADING

- A. Moisture content shall not exceed 18%. Materials with a nominal thickness of 3" or less shall be kiln dried. Lumber shall be new S4S unless noted otherwise, sound, seasoned and free from warp that cannot be corrected in process of nailing or bridging.
- B. Grade and trademark shall be required on each piece of lumber or on each bundle in bundled stock, unless shipment is accompanied by certificate of inspection issued by grading organization.

2.3 TREATMENT

- A. Blocking used on the exterior of the building, including all new blocking within the roofing system, shall be pressure treated for resistance to rot. No copper based treatment allowed for wood members.

PART III - EXECUTION

3.1 INSTALLATION

A. General:

1. Members shall be closely fitted with minimum space, accurately set to required lines and levels and rigidly secured in place.

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ROUGH CARPENTRY

2. No wood material shall be left exposed to the elements after installation for more than 5 days. Such material shall be removed and replaced with new at the Contractors' own cost.
- B. Method of Fastening:
1. Fasten carpentry items to building construction to provide a secure, permanent installation. Use spacings and sizes of bolts screws, and nails which exceed the strength of members being fastened. Failure due to over-stressing must occur in the members before occurring in the fastenings.
 2. Fastenings shall be as follows:
 - a. Screws/nails shall be as required to assemble and secure wood construction.
 - b. Existing edge nailers shall be in good condition with no rotted wood or splits. Existing fasteners shall be adequate to resist the design wind load and not be corroded or missing. Consult Engineer/Owner for removal and replacement of such prior to installation.
 - c. Bolts anchoring wood nailers to concrete pre-cast shall be spaced 4 feet apart maximum. At outside building corners bolts shall be maximum 2 feet apart, 8 feet each way from the corner.
 - d. Top nailers to other wood members shall be fastened at 24 inches, two rows, on center, staggered. At 8 feet from each outside corner, spacing shall be maximum of 12 inches on center. Embed nails a minimum 1 ¼" into bottom nailer.
 - g. Members of multiple board configuration shall have each layer nailed individually and have interlocked (dovetailed) corners.
 - h. Fastener load to be minimum 200 pounds/foot or meet wind load requirements as determined by ANSI/SPRI/FM/ES-1- *Wind Design Standard for Edge Systems used with low Slope Roofing Systems*. If design load is suspected of not being met, Engineer or Owner has option to perform pullout test. If test results show load requirements not being met, removal of fastener and installation of such to meet load requirement is at no additional cost to Owner.

3.2 FIELD QUALITY CONTROL

- A. Selection of Lumber Pieces
1. Select individual pieces so that knots and obvious defects will not interfere with placing bolts or proper nailing or making proper connections.
 2. Cut out and discard all defects, which will render a piece unable to serve its

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intended function.

3. Lumber may be rejected by the Engineer, whether or not it has been installed; for excessive warp, twist, bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting.
- B. Cutting and Fitting
1. All necessary cutting and fitting of wood construction for mechanical, electrical, and other trades shall be done by workers in the carpentry trade.
 2. Make all necessary repairs to wood construction after the completion of work by other trades.

END OF SECTION 06 10 53

SECTION 07 01 50
PREPARATION FOR REROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Roof tear-off.
 2. Re-roof preparation.

1.2 ACTION SUBMITTALS

None Required.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Reroofing Conference: Conduct preconstruction conference at project site. Meet with Owner; Construction Manager, Designer; roofing Installer, including project manager and superintendent.
- C. Review methods and procedures related to roofing system tear-off and replacement, including, but not limited to, the following:
1. Reroofing preparation, including roofing system manufacturer's written instructions.
 2. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
 3. Existing roof deck conditions requiring notification of Designer.
 4. Condition and acceptance of existing roof deck.
 5. Structural loading limitations of roof deck during reroofing.
 6. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
 7. Existing conditions that may require notification of Designer before proceeding.
 8. Removal process for the current roof system.

1.4 FIELD CONDITIONS

- A. Owner will occupy building immediately below reroofing area. Conduct reroofing so Owner's operations are not disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.
- B. Coordinate work activities daily with Owner's representative so Owner can place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or fire-detection equipment if needed, and evacuate occupants from below work area if required.
- C. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below affected area. Verify that occupants below work area have been evacuated before proceeding with work over impaired deck area.

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PREPARATION FOR REROOFING

- D. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- E. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- F. Trash and debris to be removed from the roof by mechanical means. Coordinate with Owner any use of trash chutes to verify if will be allowed. Coordinate with Owner/Construction Manager to set-up location for the unloading of trash and materials and the loading of materials.
- G. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit work to proceed without moisture entering existing roofing system or building.
- H. Remove only as much roofing in one day as can be made watertight in the same day.

PART 2- PRODUCTS

2.1 TEMPORARY ROOFING MATERIALS

Design and selection of materials for temporary roofing are Contractor's responsibilities.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prior to commencement of any work, inspect and thoroughly water test all existing roof drains for free flow operation with Owner's maintenance personnel present. Report any drain restrictions to Owner. Should drains become clogged at any time after the start of work due to Contractor's work, correct the condition at no additional expense to the Owner.
- B. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- C. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
- D. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing roofing system components that are to remain.
- E. Extend all existing vents through the roof to the height if required by the local plumbing code, but not less than 8 inches above finished roof level.

3.2 ROOF TEAR-OFF

- A. General: Notify Owner's Representative each day of extent of roof tear-off proposed for that day to minimize disruption to Owner's operations.

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PREPARATION FOR REROOFING

- B. Cease tear-off as required due to any disruption reported by owner and coordinate area for tear-off on another date agreed to with Owner.
- C. Do not overload the deck substrate with excessive piles of removed aggregate.
- D. Remove roof components as noted on plans and dispose of properly

3.3 DECK PREPARATION

- A. Inspect deck after tear-off of roofing system.
- B. If deck surface is unsuitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Designer. Do not proceed with installation until directed by Designer.

3.4 DISPOSAL

- A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Storage or sale of demolished items or materials on-site is not permitted.
- C. Transport and legally dispose of demolished materials off Owner's property.

3.5 SITE REPAIR

- A. Repair or replace any damaged curbs, sidewalks, rutted yard areas, shrubs, trees, sprinkler system, etc.
- B. Restore areas and items to their original condition prior to construction at the Contractor's expense.

3.6 CLEAN-UP AND DAMAGE REPAIR

- A. Any existing items, structures, or areas damaged during the course of the construction shall be repaired and restored to a condition at minimum, equal to than it was prior to commencement of work.

END OF SECTION 07 01 50

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SECTION 07 21 00
ROOF AND DECK INSULATION

INDEX

PART 1 - GENERAL

- 1.1 Section Includes
- 1.2 References
- 1.3 System Description
- 1.4 Submittals
- 1.5 Delivery, Storage, and Handling
- 1.6 Quality Control

PART 2 – PRODUCTS

- 2.1 Insulation Materials
- 2.2 Fasteners

PART 3- EXECUTION

- 3.1 Inspection of Surfaces
- 3.2 Insulation Installation

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Rigid Board Insulation
- B. Installation

1.2 REFERENCES

- A. ASTM C 165 Recommended Practice for Measuring Compressive Properties of Thermal Insulation
- B. ASTM C 177 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot Plate Apparatus
- C. ASTM C 272 Test Method for Water Absorption of Core Materials for Structural Sandwich Construction
- D. ASTM C 390 Standard Criteria for Sampling & Acceptance of Preformed Thermal Insulation Lots
- E. ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products
- F. ASTM C 518 Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter
- G. ASTM C1289 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation
- H. ASTM D 41 Specification for Asphalt Primer Used in Roofing and Waterproofing
- I. ASTM D1621 Test Method for Compressive Properties of Rigid Cellular Plastics
- J. ASTM D1622 Test Method for Apparent Density of Rigid Cellular Plastics
- K. ASTM D2126 Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
- L. ASTM E84 Test Method for Surface Burning Characteristics of Building Materials
- M. ASTM E96 Test Methods for Water Vapor Transmission of Materials

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ROOF AND DECK INSULATION

1.3 SYSTEM DESCRIPTION

- A. Remove/reuse existing insulation to existing lightweight concrete deck material as noted on plans for Levels A, B and E. any wet lightweight concrete fill to be removed and replaced with new polyisocyanurate (ISO) insulation board. Levels C, D and F existing insulation remains except damaged/or wet. Remove any damaged/or wet insulation and replace with new polyisocyanurate insulation board. Total bid quantity of ISO insulation based on 1.5 inch thickness – 700 square feet. Contractor to alert Construction Manager/Consultant upon observation of insulation that needs to be removed and replaced. Contractor shall provide photographic documentation of wet/damaged material, location of area on roof plan, measurement/quantity of material removed and replacement at area. Provide information in Procure. Not following these procedures will forfeit contractor eligible for payment of insulation removed /replaced
- B. Fastening patterns noted below are calculated to either resist 300 pounds of pullout force or as determined by Engineer/Consultant. Fastening pattern below are **minimum**. Contractor to install number of fasteners per EPDM manufacturers’ recommendation for warranty provided, if more than number noted below.
- Minimum fastening pattern per 4’ x8 ‘ board. Smaller pieces at same ratio
- Field – 8 fasteners
 - Perimeter – 10 fasteners
 - Corner – 12 fasteners

Levels A &B – Remove existing insulation to lightweight concrete fill. Install new ½-inch-thick high density ISO coverboard over existing concrete fill.

Level C – Remove and replace any existing deteriorated wet insulation with thickness to match. Install new ½-inch-thick high density ISO coverboard over mechanical fasteners.

Levels D & F – Remove and replace any existing deteriorated wet insulation with thickness to match. Install new 3-½-inch-thick ISO (2 layers) with mechanical fasteners and new ½-inch-thick high density ISO coverboard over new insulation in adhesive.

Level E – Remove existing insulation to lightweight concrete fill. Install new 4 inch thick base layer (2 layers) at drain edge sump then 2-way tapered insulation tapered ISO with mechanical fasteners ½-inch high density ISO coverboard over new insulation in adhesive..

1.4 SUBMITTALS

- A. As requested by Engineer, provide manufacturer's specification data for insulation and adhesive.
- C. Provide layout pattern for mechanical fasteners for the top layer of insulation that is fastened, if requested by Engineer.
- D. Provide a sample of each insulation type, if requested by Engineer.
- E. Provide one sample of each type of mechanical fastener and plate, if requested by Engineer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store all insulation materials in a manner to protect them from the wind, sun, and moisture damage prior to and during installation. Any insulation that has been exposed to any moisture shall be removed from the project site.

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- B. Keep materials enclosed in a watertight, yet ventilated enclosure (i.e., tarpaulins).
- C. Store materials off of the ground on pallets or other suitable means. Any warped or broken insulation boards shall be removed from the site.
- D.
- E. Deliver materials to job site in manufacturer's original wrapping marked with name of manufacturer and density of insulation.
- E. Materials stored on the roof shall be placed so as not to impede or disturb existing drainage flow.

1.6 QUALITY CONTROL

- A. Engineer or Owner has right to test any shipment, per ASTM C390, for specifications at their own expense, if shipment meets specifications. If shipment is determined not to meet the specifications, then that shipment of material will be removed from the job site and other shipments will be tested at no expense to Owner or Engineer.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

- A. Polyisocyanurate Insulation- Base layer
 - 1. Acceptable Manufacturers
 - a. Johns Manville
 - b. Hunter panels
 - c. Atlas Energy Products
 - d. RMax, Inc.
 - e. Firestone
 - f. Carlisle
 - g. Versico
 - h. Approved Equivalent
 - 2. Insulation board shall meet the following requirements:
 - a. Federal Specification HH-I-1972, Class I
 - b. UL listed
 - c. ASTM C1289- Type II- Class II (polymer-bonded glass fiber facer both sides)
 - d. Design R-value – 5.2- per one inch
 - e. Meet Factory Mutual specs for FM 4450 & 1-60 uplift
 - 3. Physical Properties

Property	Test Method	Specifications
Dimensional Stability	ASTM D2126	2% max.
Compressive Strength	ASTM D1621	20 psi min.
Vapor Permeability	ASTM E96	1 perm max.

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R-Factor HR (Ft. squared per ASTM C518 degree Fahrenheit per BTU) per inch thickness	ASTM C177 or ASTM C518	5.6
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B. High Density Polysiocyanurate (cover board)

1. Acceptable Manufacturers
 - a. Hunter Panel - H-Shield HD
 - b. Atlas Foam- AC Foam HD
 - c. Firestone – Isogard HD
 - d. Carlisle & Versico- SecurShield HD Plus
 - e. Johns Manville - Invinsa Roof Board
 - f. Pre-Approved equal
2. Requirements
 - a. Composition: Faced with coated or uncoated polymer bonded glass fiber mat facers on both major surfaces of the core.
 - b. Meets ASTM C1289-16, Type II, Class 4 Grade 1 minimum
 - c. ½” thickness: 4’x 8’ size.

3. Physical Properties

Property	Test Method	Specifications
Dimensional Stability	ASTM D2126	Less than 0.5%
Compressive Strength	ASTM D1621	80 psi min.
Water absorption	ASTM C473	Less than 3%
Flute spanability	ASTM E661	2 5/8 inches
Flame spread and smoke developed	ASTM E84	50
R-Factor HR (Ft. squared per ASTM C518 degree Fahrenheit per BTU) per inch thickness	ASTM C518	2.5

C. Gypsum-based roof insulation board

1. Acceptable Manufacturers (needs to be acceptable to roof membrane manufacturer)
 - a. Georgia-Pacific -Dens Deck Prime

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- b. USG Securock
- c. Pre-Approved equal
- 2. Requirements
 - a. Composition: Glass mat faced gypsum with non-asphaltic, highly filled heat cured coating on one side.
 - b. ⁵/₈" thickness: 4'x 8' size.
- 3. Physical Properties
 - a. Flame spread and smoke developed – 0 – ASTM E84.
 - b. Noncombustible per ASTM E136
 - c. Compressive Strength- Minimum 900 psi

2.2 FASTENERS

- A. Metal Deck
 - 1. Acceptable Manufacturers
 - a. Construction Fasteners, Inc.
 - b. ITW Buildex
 - c. Tru-Fast Corp.
 - d. The Rawlplug Company, Inc.
 - e. Olympic Fastener
 - f. Firestone
 - g. Carlisle SynTec
 - h. Approved Equivalent
 - 2. Requirements
 - a. Plates shall be a minimum three inches in diameter and composed of galvanized steel or plastic.
 - b. Fastener and plate shall meet the requirements of FM Standard 4470 passing the SPRI Corrosion Test Procedures - Kesternich DIN-50018 with 15% red rust allowable.
 - c. Fastener and plate shall be approved within applicable FM tested roof system.
- B. Wood Components
 - . Use Factory Mutual approved fasteners and fastening pattern to install wood blocking and nailers. Minimum pull-out load to be 200 pounds/foot or meet wind load requirements as determined by ANSI/SPRI/FM/ES-1- *Wind Design Standard for Edge Systems used with Low Slope Roofing Systems*.

2.3 INSULATION ADHESIVE

- A. Polyurethane adhesive, dispensed from pre-pressurized containers requiring no external power source.
- B. Approved Products - A two component (Part A and B) polyurethane low-rise adhesive for bonding insulation to approved compatible substrates.
 - 1. Millennium Adhesives
 - 2. Oly-Bond by Olympic Mfg.
 - 3. Firestone
 - 4. Carlisle

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5. Versico
6. Engineer approved equivalent prior to bid.

PART 3 –EXECUTION

3.1 INSPECTION OF SURFACES

- A. Examine surfaces for adequate anchorage, foreign materials, moisture and other conditions which would adversely affect the roofing application and performance.
- B. The roofing contractor shall be responsible for preparing substrate to install insulation. Any conditions which require revision of Contract Documents shall be brought to Engineer's or Owner's attention for resolution.
- C. Existing decks containing residual asphalt must be cleaned and scraped as smooth as possible.

3.2 INSULATION INSTALLATION

- A. Roof Insulation
 1. Insulation shall be laid in parallel courses with all joints staggered between courses.
 2. Insulation shall be neatly fitted to all roof penetrations, projections and nailers with no gaps greater than 1/4-inch. Tapered/field cut insulation shall be installed around roof drains in such a way as to provide adequate slope for runoff into drain. Under no circumstances will the membrane be left un-supported in an area greater than 1/4-inch.
 3. When more than one layer of insulation is used, joints shall be staggered where possible with relation to the layer beneath. Each layer shall be installed as described in the Contract Documents.
 4. No more insulation shall be placed on the surface to receive roof membrane than can be covered with roofing membrane before the end of the day's work or before the onset of inclement weather.
 5. Insulation shall be dry when installed and protected from weather during application. Any insulation exposed to weather including polyisocyanurate, after delivery to the site will be required to be removed from the project site and not used on the project. Testing of the insulation shall be done at no additional expense of Engineer or Owner to verify insulation is acceptable for use on the project. All materials, which become wet or warped, shall be removed from the site and replaced with new dry materials.
 6. Provide insulation saddles at walls, curbs and other penetrations where noted or described per the Contract Documents.
 7. All loose debris and pea gravel shall be removed from the final insulation surface that the membrane will be applied to. Use of a gas powered leaf blower is recommended.
 8. Insulation sumps shall be minimum 4 feet each way from center of roof drain/scupper opening. Field cut insulation or use tapered insulation in sump area where insulation thickness allows..
- B. Attachment With Mechanical Fasteners
 1. Approved insulation board shall be fully attached to the deck with an approved mechanical fastening system.
 2. Filler pieces of insulation require at least two fasteners if size of insulation is less than four square feet.
 3. Spacing pattern of fasteners shall be as per manufacturer's recommendations to meet the wind uplift requirements. Placement of the center of any fastener from edge of insulation

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board shall be a minimum of four (4) inches and a maximum of six (6) inches.

4. Minimum penetration into deck shall be as recommended by the fastener and insulation manufacturer. For metal deck, fastener must penetrate deck a minimum ½". Verify attachment in metal deck is to top of flute. Do not over drive or under drive fastener. Install fastener so is properly seated in the plate. Any fastener not properly seated shall be removed and replaced.
- C. Insulation Attachment with Polyurethane Adhesive
1. Contractor shall coordinate project start-up with the insulation adhesive representative at least 5 working days prior to the beginning of the roof system installation.
 2. Adhesive containers shall be stored between 45° F, and 75°F. The minimum ambient and surface temperatures are to be 40° F.
 3. Before dispensing adhesive, the applicator shall observe the following precautions: wear protective clothing, work gloves and eye protection. A self-contained breathing apparatus (SCBC) is required in areas of insufficient ventilation.
 4. Surfaces shall be free of any debris, dirt, grease, oil, diesel fuel and water
 5. Maximum insulation board shall be no larger than 4 foot (4' x 4') square. If required, cut larger boards. If insulation and adhesive manufacturer allow larger boards for installation a written letter noting board size and acceptance to maintain warranty coverage from the manufacturer will be provided to Consultant and/or Owner prior to installation.
 6. Damaged or broken corners shall be cut out and replaced with a minimum 12" square piece secured in adhesive.
 7. Perform Field Test on substrate to verify that good adhesion will be provided.
 - a. Apply the adhesive to the deck per recommended application rates and methods (12" o.c., ½" to ¾" bead).
 - b. Allow the adhesive a **minimum of 60 minutes to cure**. This period should be sufficient in almost any temperature to indicate the adhesion values required for the test.
 - c. After the adhesive has been allowed to cure, pull up on the adhered board by placing a hand under the corner or end of the board in the same direction as the ribbons. Make sure that the board is **lifted by hand**. Using tools to scrape the board sometimes dis-bonds the adhesive from the deck. This will not show whether the adhesive is performing under uplift considerations (If a tool is used, it should be used to **pry or pop the board up**).
 - d. Observe the insulation and deck. The desired result is a delamination of the surface or board facer with adhesive and facer residue remaining on the deck or the board breaks apart remaining adhered to the deck at the ribbons.
 - e. **If the board is lifted and the adhesive pulls/peels off the deck or decking is pulled up with the board, Contact the Adhesive Manufacturer's Technical Department.**
 8. Adhesive is to be mixed prior to use by firmly holding the container on its side and agitating the contents in a side-to-side motion for a minimum of one minute. Mix according to manufacturer's recommendations.
 9. Attach the dispensing wand kit to the container. A multi-bead applicator is recommended for open areas of the roof deck.
 10. To prevent pressure loss, adhesive container shall be stored and used in an upright position.

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11. Insulation boards shall be placed into the beads of adhesive within 3 minutes and “walked-in” immediately to spread the beads for maximum contact. Continue to “walk-in” the insulation board every 5 to 7 minutes until the insulation is firmly attached.
12. Use a parapet wall or gutter as a straight edge guide when dispensing the first bead of insulation adhesive. Turn on the cylinder valve, slowly open the brass valve and dispense parallel ¾”-1” beads.
13. Under the normal application rate, place the first bead 3 to 4 inches as required inside the outside edge of the insulation board to be attached.
14. Multi-Bead Applicator
 - a. Squeeze the valve to dispense four beads of insulation adhesive, pulling the MBA as you dispense the ¾”-1” beads.
 - b. Place the insulation boards onto the insulation adhesive beads within 3 minutes and walk on the boards spreading the insulation adhesive for maximum contact.
 - c. Additional “walking-in” is required every 5-7 minutes until firmly attached (usually 20-45 minutes).
17. Spray Application
 - a. Immediately set the insulation boards after spraying the Insulation Adhesive. The insulation adhesive will rise (under the insulation) approximately 1/8”-1/4”. If the adhesive does not rise, stop spraying; troubleshooting is required to determine why the adhesive is not rising.
 - b. Performance of adhesive should be periodically monitored during the workday to verify that sufficient rise, adhesion and full mating of the insulation in adhesive is occurring.
 - c. Review applicable Material Safety Data Sheets (MSDS) sheets prior to use.
 - d. Review method of application prior to use with Spray Equipment Supplier.
 - e. Review spray equipment prior to use. Insure that all is in good working order: generator, air compressor, mix/meter/dispense spray unit, transfer pumps, heated hoses, spray gun, etc. Ground spray unit per dispensing equipment manufacturer’s requirements. Refer to Training Manual for specifics.
 - f. Avoid contact with eyes and skin.
 - g. Avoid breathing of vapors.
 - h. Wear respirators, long sleeves and long pants. Use gloves when handling or dispensing adhesive. Wash thoroughly after handling.
 - i. Protect all areas subject to over-spray of the Insulation Adhesive. This includes but is not limited to: cars parked adjacent to the building receiving the adhesive, air intakes/exhausts on the building, roof mounted HVAC units, roof drains, access hatches and windows/skylights accessible to the roof, and any other item or personnel which may be downwind from spraying the insulation adhesive. There will be days that the wind conditions, as well as temperature conditions, prevent the use of insulation adhesive. Do not attempt to spray adhesive when the wind speed exceeds 15 mph.
This can be estimated by observing a flag: when a flag is wind-blown to the extent that it flies approximately “straight out”, the wind is too extreme to use Insulation Adhesive on that particular workday.

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- j. Begin dispensing adhesive only when Part A and B pre-heaters have reached 135-145 °F or temperature as recommended by manufacturer in the mix/meter/dispense unit. Maintain temperature throughout the heated hoses.
 - k. It is imperative that freshly installed insulation is continuously weighted until such time as the adhesive sets up and the board is held in place by the adhesive.
 - l. Use caution when removing drum bungs as contents may develop pressure. Loosen bungs $\frac{3}{4}$ " and allow gas to escape before completely removing bungs.
 - m. Do not burn or torch-cut empty drums. Empty B component drums can be reconditioned at drum re-conditioners. Empty A or B component drums should be disposed of in accordance with local, state, and federal regulations.
18. Immediately after setting the board, weight each board using full pails of Bonding Adhesive or other available source of weight that will not damage the roof insulation. Verify the board makes continuous contact with the adhesive during the critical set-up period (which will vary depending on ambient conditions). Pay particular attention to corners of insulation boards. Loose or unattached corners in insulation boards shall be repaired by the addition of fasteners and insulation plates or other methods as required. Depending on the humidity at the time of installation, the walk-in period may be extended greatly. In such an instance, continuous weighting must be used.
19. On roofs with slope at $\frac{1}{2}$ " per foot or greater begin adhering insulation at low end and work upslope to avoid slippage.
20. Additional adhesive is required around all roof penetrations and drains.
21. Verification & Quality Assurance - Insulation adhesive
- a. Upon completion of the installation in each area, visually inspect and verify that all components are complete and properly installed. Provide adhesive manufacturer's adhesion warranty to meet the roofing system warranty requirements to Engineer and Owner.

END OF SECTION 07 21 00

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SECTION 07 24 19
EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) REPAIRS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cut and repair for EIFS-clad assembly field applied over gypsum substrate.
2. Water-resistive barrier coatings.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each EIFS component, trim, and accessory, including water resistive barrier coatings.

B. Shop Drawings:

1. Include details for EIFS buildouts.
2. Include details for parapet cap flashing.

- C. Samples: For each exposed product and for each color and texture specified, 8 inches square in size.

1.4 INFORMATIONAL SUBMITTALS

- A. Manufacturer Certificates: Signed by EIFS manufacturer, certifying the following:

1. EIFS complies with requirements.
2. Substrates to which EIFS is indicated to be attached are acceptable to EIFS manufacturer.
3. Accessory products installed with EIFS, including joint sealants, flashing, water-resistive barrier coatings, trim, whether or not furnished by EIFS manufacturer and whether or not specified in this Section are acceptable to EIFS manufacturer.

- B. Product Certificates: For cementitious materials and aggregates and for insulation and joint sealant, from manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original, unopened packages with manufacturers' labels intact and clearly identifying products.

- B. Store materials inside and under cover; keep them dry and protected from weather, direct sunlight, surface contamination, aging, corrosion, damaging temperatures, construction traffic, and other causes.

1. Complete installation and concealment of materials as rapidly as possible in each area of construction.

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EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) REPAIRS

1.6 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions and ambient outdoor air, humidity, and substrate temperatures permit EIFS to be applied, dried, and cured according to manufacturers' written instructions.

1. Proceed with installation of adhesives or coatings only when ambient temperatures have remained, or are forecast to remain, above 40 deg F (4.4 deg C) for a minimum of 24 hours before, during, and after application. Do not apply EIFS adhesives or coatings during rainfall.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. EIFS Performance: Comply with ASTM E 2568 and with the following:

1. Weathertightness: Resistant to uncontrolled water penetration from exterior.
2. Abrasion Resistance of Finish Coat: Sample consisting of 1-inch-thick EIFS mounted on 1/2-inch-thick gypsum board; cured for a minimum of 28 days and shows no cracking, checking, or loss of film integrity after exposure to 528 quarts of sand when tested according to ASTM D 968, Method A.
3. Mildew Resistance of Finish Coat: Sample applied to 2-by-2-inch clean glass substrate; cured for 28 days and shows no growth when tested according to ASTM D 3273 and evaluated according to ASTM D 3274.

2.2 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Sto Corp; or a comparable product by one of the following:

1. BASF Corporation.
2. Dryvit Systems, Inc.
3. Parex USA, Inc.

B. Source Limitations: Obtain EIFS from single source from single EIFS manufacturer and from sources approved by EIFS manufacturer as compatible with EIFS components.

2.3 EIFS MATERIALS

A. Air/Moisture Barrier:

1. Joint Treatment, Rough Opening Protection, and Detail Components:

- a. Ready mixed coating applied by trowel or knife for rough opening protection of frame walls and joint treatment of sheathing. Also used as detail component to splice over back flange of starter track, flashing, and similar ship lap details.

1) Basis-of-Design Product: Subject to compliance with requirements, provide Sto Corp; Sto Gold Fill.

2. Waterproof Coating:

- a. Ready mixed waterproof coating for concrete, concrete masonry, wood-based sheathing, and glass mat gypsum sheathing.

1) Basis-of-Design Product: Subject to compliance with requirements, provide Sto Corp; Sto Gold Coat.

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EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) REPAIRS

3. Transition Detail Components:
 - a. Flexible air barrier membrane for continuity at static transitions such as sheathing to dissimilar materials (CMU to frame wall)
 - 1) Basis-of-Design Product: Subject to compliance with requirements, provide Sto Corp; StoGuard Transition Membrane.
- B. Base Coat:
 1. Cementitious Base Coat:
 - a. Factory blended one component polymer modified portland cement based high build base coat.
 - 1) Basis-of-Design Product: Subject to compliance with requirements, provide Sto Corp; Sto BTS Plus.
 2. Waterproof Base Coat:
 - a. Fiber reinforced acrylic based waterproof base coat mixed with portland cement for use as a waterproof base coat over cementitious base coat for foundations, parapets, splash areas, trim and other projecting architectural features.
 - 1) Basis-of-Design Product: Subject to compliance with requirements, provide Sto Corp; Sto Flexyl.
- E. Reinforcing Meshes:
 1. Standard Mesh: Nominal 4.5 oz/yd², symmetrical, interlaced open-weave glass fiber fabric made with alkaline resistant coating.
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide Sto Corp; Sto Mesh.
- F. Primer: Standard factory-mixed, primer for preparing base-coat surface for application of finish coat.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sto Corp; StoPrime.
- G. Finish Coat: EIFS manufacturer's acrylic-based coating complying with the following:
 1. Acrylic based textured wall finish with graded marble aggregate and enhanced polymer technology for easy spread and float application
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide Sto Corp; Stolit X.
- H. Water: Potable.
- I. Trim Accessories: Type as designated or required to suit conditions indicated and to comply with EIFS manufacturer's written instructions; manufactured from UV-stabilized PVC; and complying with ASTM D 1784, manufacturer's standard cell class for use intended, and ASTM C 1063. All horizontal reveals must have a minimum 1:2 slope along their bottom surface, unless otherwise recommended by manufacturer for location of this project.
 1. Casing Bead: Prefabricated, one-piece type for attachment behind insulation, of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating and back leg.

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EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) REPAIRS

2.4 MIXING

- A. Comply with EIFS manufacturer's requirements for combining and mixing materials. Do not introduce admixtures, water, or other materials, except as recommended by EIFS manufacturer. Mix materials in clean containers. Use materials within time period specified by EIFS manufacturer or discard.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roof edges, wall framing, flashings, openings, substrates, and junctures at other construction for suitable conditions where EIFS will be installed.
- C. Proceed with removal and installation of new coating only after unsatisfactory conditions have been corrected.
 - 1. Begin coating application only after surfaces are dry.
 - 2. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Protect contiguous work from moisture deterioration and soiling caused by application of EIFS. Provide temporary covering and other protection needed to prevent spattering of exterior finish coats on other work.
- B. Protect EIFS, substrates, and wall construction behind them from inclement weather during installation. Prevent penetration of moisture behind drainage plane of EIFS and deterioration of substrates.
- C. Prepare and clean substrates to comply with EIFS manufacturer's written instructions to obtain optimum bond between substrate and adhesive for insulation.

3.3 EIFS INSTALLATION, GENERAL

- A. Comply with ASTM C 1397, ASTM E 2511, and EIFS manufacturer's written instructions for installation of EIFS as applicable to each type of substrate indicated.

3.4 SUBSTRATE PROTECTION APPLICATION

- A. Water-Resistive Barrier Coating: Apply over sheathing to provide a water-resistive barrier.
 - 1. Tape and seal joints, exposed edges, terminations, and inside and outside corners of sheathing unless otherwise indicated by EIFS manufacturer's written instructions.

3.5 TRIM INSTALLATION

- A. Trim: Apply trim accessories at perimeter of EIFS, as required.

3.6 BASE-COAT AND REINFORCING MESH APPLICATION

- A. Water-Resistant Base Coat: Apply full-thickness coverage to exposed insulation as required.

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- B. Base Coat: Apply full coverage to exposed insulation outs with not less than 1/16-inch dry-coat thickness.
- C. Standard Reinforcing Mesh: Embed reinforcing mesh in wet base coat to produce wrinkle-free installation with mesh continuous at corners, overlapped not less than 2-1/2 inches or otherwise treated at joints to comply with ASTM C 1397. Do not lap reinforcing mesh within 8 inches of corners. Completely embed mesh, applying additional base-coat material if necessary, so reinforcing-mesh color and pattern are invisible.

3.7 **FINISH-COAT APPLICATION**

- A. Primer: Apply over dry base coat.
- B. Finish Coat: Apply full-thickness coverage over dry primed base coat, maintaining a wet edge at all times for uniform appearance, to produce a uniform finish of color and texture matching approved sample and free of cold joints, shadow lines, and texture variations.
 - 1. Embed aggregate in finish coat to produce a uniform applied-aggregate finish of color and texture matching existing.

3.8 **FIELD QUALITY CONTROL**

- A. Final installation to be approved by Consultant.

3.9 **CLEANING AND PROTECTION**

- A. Remove temporary covering and protection of other work. Promptly remove coating materials from adjacent surfaces outside areas indicated to receive EIFS coatings.

END OF SECTION 07 24 19

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ELASTOMERIC SHEET ROOFING - ADHERED

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PART I - GENERAL

1.1 SCOPE

- A. ELASTOMERIC SHEET ROOFING
- B. FLEXIBLE FLASHINGS
- C. OTHER COMPONENTS AS REQUIRED

1.2 REFERENCES

- A. ASTM C136: Standard Test Method for Sieve Analysis of Fine & Coarse Aggregates
- B. ASTM D448: Standard Classification for Sizes of Aggregate for Road and Bridge Construction
- C. ASTM C471: Standard Test Method for Rubber Property - Effect of Liquids
- D. ASTM D4637: Standard Specification for EPDM Sheet Used in Single-Ply Roof Membrane
- E. ASTM D4811: Standard Specification for Rubber Sheet, Non-vulcanized, Used as Roof Flashing

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ELASTOMERIC SHEET ROOFING - ADHERED

1.3 SYSTEM DESCRIPTION

- A. Levels A through E (Base Bid) - Adhered unreinforced 60 mil thick EPDM (ethylene propylene diene monomers) membrane with a 25 year system warranty. Roof system shall meet minimum requirements of UL Class "B" System.

1.4 QUALITY ASSURANCE

- A. The entire installation of roofing, insulation, flashing, and sheet metal work shall be of the quality required for acceptance by the manufacturer in order to obtain the specified material and workmanship warranties offered by the manufacturer for the Base Bid.
- B. Comply with the requirements of the regulatory agencies as specified herein.
- C. Applicator:
1. Acceptable to the manufacturer of the roofing materials and factory trained by the manufacturer.
 2. Successfully completed projects of similar magnitude, using similar materials.
 3. As an approved applicator, will have all knowledge of all items required by the manufacturer in the installation of the manufacturer's system. These items will be included in the work.
- D. The roofing contractor shall verify that all roofing materials (i.e., membrane, insulation, fasteners, adhesives, sealants, etc.) are compatible with each other and the substrates which they will be in contact with. Notify Engineer/Owner of any discrepancies or incompatibilities.
- E. Contractor shall coordinate construction activities with Engineer so a representative can be on-site during critical phases of construction. Contractor shall notify Engineer and Owner 24 hours before installation starts. Coordination of schedule shall be discussed in the first week of construction and during the construction process with the foreman and the Engineer's representative.
- F. Amount of patches due to Contractor's improper protection or application on new membrane shall be less than 15% of total roof area. If patches total that percentage, Contractor shall remove or overlay with new membrane at his own expense.

1.5 SUBMITTALS

- A. The following items are required to be submitted to Engineer and Construction Manager prior to commencement of construction.
1. Sheet layout and splice locations for ballasted roofs
 2. Water cutoff method for end of day construction
 3. Construction schedule
 4. Manufacturer approval of Contractor for warranty.
- B. Contractor shall submit the following items if specifically requested by Engineer, Construction Manager or Owner.
1. Shop Drawings:
 - a. Indicate the following:

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1. Locations sizes, and types of penetrations
2. Outline of roof and dimensions
2. Manufacturer's Product Data Sheets:
 - a. Showing complete details of the system
 - b. Material characteristics
 - c. Test data
 - d. Installation recommendations
3. Certificates: Submit manufacturer's Certificate of Compliance
4. Manufacturer's Instructions: furnish manufacturer's printed instructions for installation of membrane and insulation, including procedures and materials for flashing, splicing, and bonding.
5. Membrane manufacturer's written approval that the roofing contractor is an authorized applicator of its products.
6. Membrane manufacturer's written approval that the technical specifications and plans are in accordance with their published specifications and details.
7. Samples: Membrane material; Minimum size; 6" x 6" sample
8. Copies of all field site visits and inspections by manufacturer's representative.
- C. Detailed as-built drawing showing location of all field seams for ballasted roofs. Submit after project completion.
- D. All submittals shall be subject to Engineer's and/or Owner's review. Review of any submittal shall be for compliance only and does not denote specific approval.
- E. Send project information to EPDM manufacturer to assure obtaining manufacturer's warranty prior to bidding. All insulation and components required for construction shall be approved by EPDM manufacturer.

1.6 PRODUCT HANDLING, STORAGE, AND DELIVERY

- A. Materials shall be stored in their original, tightly sealed containers or unopened packages and shall be clearly labeled with the manufacturer's brand name and such identifying reference numbers as are appropriate.
- B. Materials shall be stored in a neat, safe manner, so as not to exceed allowable live load of the storage area, and out of the weather in a clean, dry area.
- C. Splice cleaner and bonding adhesives are extremely flammable. Do not use near fire or flame or in unventilated areas. Dispense from UL approved containers and consult material safety data sheets for specific information.
- D. Any materials damaged in handling or storage are not to be used.
- E. Coal tar base, oil base, or plastic roof cements are not to be used in direct contact with steam or steam source.
- F. Do not allow the EPDM material to come into direct contact with steam or steam source.
- F. All bonding, splicing and sealing surfaces must be free of dirt, moisture and any other contaminants.
- G.

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- G. Installation may continue in cold weather provided adhesives and sealants are stored at room temperature prior to application and used within a 4-hour period after being brought to the roof, if approved by the manufacturer. Follow manufacturer's recommendations for special precautions for installation below 40°F.
- H. Remove wet material that gets wet at the site or is delivered wet to the project site.
- I. Comply with fire and safety regulations.

1.7 JOB CONDITIONS

- A. Apply roofing in dry weather.
- B. If the newly constructed underlying roof materials or insulation becomes wet due to rainstorm, faulty water cutoff, or other reasons, the Contractor shall remove and dispose of all wet materials, dry the affected roof area, and reconstruct the roof in accordance with these specifications, at no additional cost to the Contract.
- C. The roof surface shall be free of ponded water, ice, snow, or algae prior to installing the new roof system. Contractor shall take whatever methods are necessary to provide such conditions.

1.8 WARRANTIES

- A. The Contractor shall provide Owner with a written warranty guaranteeing all roofing work including membrane, flashing, counterflashing and associated work required by the Contract Documents to be watertight for a period of five years from date of final acceptance of construction. Language in the guarantee shall be acceptable to Owner prior to acceptance. Guarantee shall include all materials and workmanship required to repair any leaks that develop due to defects in material or workmanship.
- B. The membrane manufacturer shall issue a 25-year system leak and workmanship warranty and standard 25-year material warranty for Base Bid.

PART II - PRODUCTS

2.1 ELASTOMERIC MATERIALS

- A. Unreinforced black EPDM Membrane
 - 1. Acceptable Manufacturers
 - a. Carlisle SynTec Systems
 - b. Firestone Building Products Company
 - c. Versico, Inc.
 - d. John Manville
 - e. Approved equivalent (Prior to receipt of bids)
 - 2. Requirements
 - a. EPDM membrane will meet the requirements for a UL Class "B" system.
 - 3. Physical Properties : Meet ASTM D 4637-96, Type I, un-reinforced sheet .
 - a. Base Bid – 60 mil thick

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4. Related Materials:
 - a. Flashing: as recommended and furnished by the membrane manufacturer. Minimum thickness as recommended by membrane manufacturer. If uncured flashing used - meet ASTM D 4811, Type I, Grade I, Class V.
 - b. Bonding Adhesive: Compatible with materials as recommended by the membrane manufacturer.
 - c. Splicing Adhesive: Liquid type as recommended and furnished by membrane manufacturer.
 - d. Splice Cleaner: Furnished or recommended by the membrane manufacturer.
 - e. Lap Sealant: Furnished by membrane manufacturer.
 - f. Water cutoff mastic: Compatible with materials as recommended by manufacturer.
 - g. Factory molded pipe flashing: Configuration as required and compatible with materials as recommended by the manufacturer.
 - h. Night seal: Compatible with materials as recommended by the membrane manufacturer.
 - i. Lap primer: Compatible with materials as recommended by the membrane manufacturer. Primer in marked cans only will be used.
 - j. Nailing strips and termination bars: Use extruded nailing strips and fasteners as recommended by the membrane manufacturer.
 1. Minimum thickness - 0.05"
 2. Width - 1"
 - k. Seam tape : Furnished by manufacturer
- B. Reinforced Perimeter Fastening Strip
 1. Acceptable Manufacturer
 - a. Manufacturer of EPDM material
 2. Physical Properties
 - a. Same as EPDM material
 - b. Thickness - 0.045 inches
- C. Walkway Pads
 1. Material as recommended by EPDM manufacturer
 2. Minimum size 30 inches by 30 inches.

PART III - EXECUTION

3.1 PRE-CONSTRUCTION MEETING

- A. Prior to the start of roofing work, a meeting will be held at the job site for the purpose of reviewing materials, methods, coordination of schedule and procedures to facilitate proper and timely construction of the roofing system.

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- B. A responsible representative from each of the following organizations shall be in attendance:
1. Roofing contractor (as a minimum, the field foreman assigned to the job).
 2. Terracon Consultants
 3. Construction Manager and Owner.

3.2 INSPECTION OF SURFACES

- A. Examine surfaces for adequate anchorage, foreign materials, moisture, and other conditions which would adversely affect the roofing application and performance.
- B. The roofing contractor shall be responsible for preparing existing surfaces to receive insulation, roofing, and flashing. Any deviation from Contract Documents shall be brought to the attention of Engineer or Owner for resolution.

3.3 APPLICATION - GENERAL

- A. Install in accordance with the accepted roofing manufacturer's current written specifications and recommended details by the manufacturer during the time of bid and Contract Documents. If there is a discrepancy between the two, the more stringent of the two shall apply, unless otherwise directed by Engineer or Owner.
- B. Roof surfaces shall be thoroughly dry before application of roofing. Clean and sweep all construction areas daily.
- C. Inspection of the roofing shall be made by a responsible representative of the roofing manufacturer during application and after completion.
- D. Take all precautions required to prevent blowing or tracking of aggregate from the existing roof that is being removed from entering into new work area. Assure that aggregate is not tracked into new roof installation area on worker's shoes or equipment wheels. Aggregate under or within the new membrane shall be cut out and the membrane patched per specifications.
- E. Roofing insulation shall be dry when installed and shall be protected from the weather during installation. All materials which become wet shall be removed and replaced with new dry materials that meet specifications.
- F. When application of roofing is begun, the total roofing system in the area where insulation and /or tearoff is performed shall be covered and watertight before the contractor's crew leaves the area for the day and before any moisture can enter into the completed roof assembly.
- G. Install temporary water cutoffs at the completion of each day's work and remove temporary materials upon resumption of the work. Any leaks and damage due to insufficient water cutoffs, accidents or neglect by Contractor shall be repaired and compensated for by the Contractor at no cost to the Owner.
- H. Application workmen shall wear soft rubber-soled shoes for all work where they may be walking on the in-place roofing membrane. Precautions shall be taken to protect the membrane from puncture.
- I. If materials are stored on the roof, the materials will be stored on pallets off of the existing roof. Materials shall be stored so no damage occurs to the existing roof.

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- J. Special care will be taken to prevent distress on the building structure when storing and handling materials on the roof.
- K. Any materials stored on the roof shall be so situated that the existing drainage flow is not impeded or disturbed.

3.4 SEQUENCING/SCHEDULING

- A. Notify the Owner, Construction Manager and Engineer 24 hours before the first day of construction.
- B. Coordinate with Engineer during construction so that the Engineer or his representative can schedule to be at project to observe first day installation of insulation, membrane, flashings and typical installations after the first day.
- C. Contact Engineer when construction is substantially complete for review

3.5 MEMBRANE INSTALLATION

- A. General
 - 1. Membrane materials, splicing, perimeter attachment, bonding, flashing, molded pipe flashing, temporary water cutoffs and other related work shall be installed in accordance with the manufacturer's printed instructions and reviewed shop drawings.
- B. Membrane Placement- Adhered
 - 1. Place membrane without stretching over the acceptable substrate. Allow membrane to relax a minimum of 30 minutes before bonding.
 - 2. Fold membrane back after making sure the sheet is placed in its final position, fold it back evenly onto itself so as to expose the underside. The sheet should lay smooth so as to minimize the formation of wrinkles during and after installation.
 - 3. Provide special emphasis to remove all stones, pebbles, and other material before gluing sheets to substrate.
 - 4. Remove dust and dirt by sweeping the mating surface of the membrane with a stiff broom to remove excess dusting agent (if any) or other contaminants from the mating surface.
 - 5. Apply bonding adhesive at about the same time to both the exposed underside of the sheet and the substrate to which it will be adhered so as to allow approximately the same drying time. Apply bonding adhesive evenly so as to avoid globs.
 - a. Apply bonding adhesive with a roller: Apply the bonding adhesive and roll the adhesive on to the mating surfaces.
 - b. Apply bonding adhesive by spraying and then rolling: Spray on bonding adhesive and then roll out with a solvent resistant paint roller.
 - 6. Stop bonding adhesive short of seam area using care not to apply bonding adhesive over an area that is to be later cleaned and spliced to another sheet or flashing.

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7. Apply bonding adhesive at specified coverage rate;
Apply bonding adhesive as specified per manufacturer. Coverage rate will differ with various substrates and/or climatic conditions.
 8. Test bonding adhesive for readiness:
Allow bonding adhesive to flash off until tacky. Touch the bonding adhesive surface with a clean, dry finger to be certain that the adhesive does not stick or string. As you are touching the adhesive, pushing straight down to check for stringing, also push forward on the adhesive at an angle to ensure that the adhesive is ready throughout its thickness. If either motion exposes wet or stringy adhesive when the finger is lifted, then it is not ready for mating. Flash off time will vary depending on ambient air conditions.
 9. Bond the membrane to the substrate:
Starting at the fold, roll the previously coated portion of the sheet into the coated substrate slowly and evenly so as to minimize wrinkles.
 10. Broom the membrane:
To ensure proper contact, compress the bonded half of the sheet to the substrate with a stiff push broom.
 11. Repeat procedure to complete the sheet installation:
Fold the unadhered half of the membrane sheet back onto itself and repeat the bonding procedure to complete the bonding of the sheet.
- C. Membrane Lap Splicing - Seam Tape
1. Use on field splices only.
 2. Position the sheet at the splice at the splice area by overlapping the membrane 5". Once the membrane is in place, mark the bottom sheet ½" to ¾" from the edge of the top sheet every 4 to 6 feet with a colored crayon or similar device. Tack the sheet back with manufacturer's priming solution at 5 feet centers and at factory splices or as required to hold back the membrane at the splice area.
 3. Remove excess amounts of dusting agent from the sheet and at factory splices using a stiff push broom. Stir manufacturer's prime solution thoroughly prior and during usage. Dip the scrubber into the primer, keeping the scrubber flat. Apply the priming solution back and forth strokes with an adequate amount of pressure along the whole length of the splicing area until the surfaces turn dark gray on color.
Apply primer to both surfaces at the same time. At each 200 feet of 3 inch wide splice change the scrub pad, or when the pad will no longer retain the required amount of primer. Provide additional cleaning of contaminated areas or areas of excess dusting agent and at all factory splices.
 5. Position the seam tape with the paper intact on the bottom sheet. Align the edge of the release paper with the markings. Immediately roll the splice tape with a 3 to 4" wide silicone sleeved steel hand roller or a short nap 3" paint roller.

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5. After the seam tape is installed the whole length of the splice, place the top sheet over the tape's paper backing. Trim the top sheet as required to provide 1/8" to 1/2" of the seam tape exposed on the finished splice.
 6. Roll back the membrane and peel the paper backing of the seam tape by pulling against the weight of the bottom sheet at a 45 degree angle to the tape and parallel with the roof surface. Allow the top sheet to fall freely onto the exposed seam tape. Broom the entire length of the splice as the release paper is removed.
 7. Roll the splice using a 1 1/2" to 2" wide silicone or silicone sleeved steel hand roller, first across the splice and then along the entire splice length.
 8. Overlay seam with membrane manufacturer approved 6" wide minimum flashing material for system warranty.
 9. Install lap sealant as required for system warranty.
 10. End laps
 - a. Overlap seam tape a minimum 1" when the splice length is larger than the tape.
 - b. Trim tape at T joints so that the edge of the tape and the membrane edge are flush under the joint..
 - c. Apply manufacturer approved flashing or joint cover over T-joint
 - d. If cured EPDM used as flashing, apply an 8" long section of flashing or joint cover material over the flashing and field splice intersection
- D. Pre-taped sheets
1. Position the sheet rolls in the correct location and orientation to unroll and have the tape located for the seaming of the laps. Pre-taped rolls are marked with the tape location and direction of unroll. Panels need only to be marked to guide the application of primer to one sheet for side laps. Roll end laps require standard application of primer and seam tapes.
 2. Position and fold back the lap edge:
 - a) Position the membrane at the seam area by overlapping membrane 4" for 3" seam tape, 7" for 6" Seam tape. Once the membrane is in place, mark the bottom membrane 1/2" to 3/4" from the edge of the top membrane every 4' to 6' using the marking crayon provided with the seam tape.
 - b) Tack the membrane back with single-ply manufacturer's primer as necessary to hold back the membrane at the splicing area.
 3. Apply single-ply Manufacturer's primer to seam area:
 - a) Remove excess amounts of dusting agent on the membrane and at factory splices using a stiff push broom. In the case of adhered systems make sure there is no contamination of bonding adhesive in the tape area.
 - b) Stir single-ply manufacturer's primer thoroughly before and frequently during use. Dip the scrubber into the bucket of the manufacturer's primer keeping the pad flat.

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- c) Apply the single-ply manufacturer's primer uniformly at least 1" wider than seam tape application area, using long back and forth type strokes with pressure along the length of the splicing area until surfaces become dark gray in color. Do not over-work the single-ply manufacturer's primer.
4. Pre-taped sheets only require primer applied to the non-taped, bottom sheet, panel mating surface for the side seams. End seams require two sided application of primer.
5. Non-taped panels will need to have single-ply Manufacturer's primer applied to both sheet surfaces alternating between sheets while working down the seam area.
6. Change the scrubber pad:
- a) Pre-taped panel side laps are one side application and will result in approximately 400 feet of usage or other panels and pre-taped ends are two sided applications and will result in 200 feet of seam or when the pad will no longer holds the proper amount of primer, whichever is less.
- b) Additional scrubbing is required at all factory seams and at areas that may have become contaminated or have excess amounts of dusting agent in the creases. Allow primer to dry, check using the Touch-Push test.
7. Apply the manufacturer's splice tape:
- a) After allowing the primer to dry properly, using the Touch-Push Test to verify.
- a). Pre-taped products require end laps be done, for side laps skip to 8 below
- b). On other panels, apply the manufacturer's splice tape to the bottom membrane, aligning the edge of the release paper with the markings. Refer to lap splice detail appropriate for system being installed.
- c) Immediately roll the splice tape with a 1 1/2" to 2" wide silicone hand roller or a clean scrubber pad and handle.
8. Position the membranes, check the Splice Tape Alignment:
- a) Place the top membrane to rest on bottom membrane with the tape's release backing still in place.
- b). Pre-taped panels: Confirm the tape will be in full contact with primer treated membrane on side laps. End laps should follow instructions given below.
- c). Other panels: trim the top panel as necessary to assure that 1/8" to 1/2" of the seam tape will be exposed on the finished seam. Confirm the tape will be in full contact with the primed membrane.
9. Remove Release Backing:
- a) Allow the top membrane to fall freely onto the bottom membrane prior to removal of the release backing.
- b) Start to peel the release backing off the splice tape by pulling against the weight of the panel at approximately a 45° angle to the tape and parallel with the roof surface.

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- c) Broom the entire length of the seam at a 45° angle as the release paper is being removed.
- 10. Roll the Seam
 - a) Roll the seam as appropriate, using the manufacturer's roller and 2'-3' strokes working from one side of the seam to the other along the seam length, or a 1-1/2" to 2" wide silicone hand roller, first across the width of the seam and then along the entire length and width of the seam.
- 11. Special Considerations (Factory laps, End Laps, "T" Joints, transition patches, and others.)
 - a) End Laps of tape - When the seam is greater in length than the tape, the adjoining
 - b) Seam splice tape must be overlapped a minimum of 1" and detailed per manufacturer's details.
 - c) Trim splice tape at "T" Joints - Trim splice tape so that the edge of splice tape and the edge of the membrane are flush beneath the "T" Joint area per manufacturer's details.
 - d) "T" Joints - Apply a section of manufacturer's flashing or seam joint cover over the "T" joint area per manufacturer's details.
 - d) Use of 6" or 7" splice tape with Cured EPDM as Flashing - If cured EPDM is used as flashing, apply a 9" long section of splice tape and cover with primed membrane or a 9" section of manufacturer's joint cover over the intersection of the flashing and field seams per manufacturer's details.
- E. Flashing- Walls, Parapets, Mechanical Equipment Curbs, Skylights, Etc.
 - 1. Using the longest pieces practical, flash all walls, parapets, curbs, etc., to the height as specified by the project designer.
 - 2. Evaluate substrate: The following substrates require an over layment of 1/2" exterior grade or "Wolmanized" plywood mechanically fastened in accordance with the project designer's requirements.
 - a. Gypsum board
 - b. Stucco
 - c. Cobblestone
 - d. Textured masonry
 - e. Corrugated metal panels
 - f. Other uneven substrates
 - 3. Evaluate existing flashings:
 - a. Remove existing roof flashing material
 - 4. Use membrane manufacturers reinforced perimeter fastening strip material for flashing for EPDM manufacturers that make material.
 - a. Unroll the RPF strip over installed insulation and position per manufacturer's specifications.
 - b. Fasten with 2" seam plates and screws, or batten strips.
 - c. Sealant required on all fastener heads when batten strips are used.

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- d. Clean the dry mating surfaces using clean cotton cloths with splice wash to remove all dirt and other contaminants that will affect the finished bond strength. Allow to dry.
- e. Brush apply, splice adhesive to both surfaces and mate according to manufacturer's specifications.
- f. Roll finished base tie-in with a 2"-3" wide silicone or silicone sleeved steel hand roller to ensure proper adhesion.
- g. Maximum fastener length is 6".
- h. Do not install over uneven substrates.
5. Splice to roof sheet first:
Complete the splice between flashing and the main roof sheet with splice adhesive before flashing to the vertical surface. Provide lap splices in accordance with manufacturer's details.
6. Apply bonding adhesive to the vertical surface:
Apply bonding adhesive at about the same time to both the flashing and the surface to which it is being bonded so as to allow approximately the same drying time. Apply bonding adhesive evenly so as to avoid globs.
 - a. Apply bonding adhesive with a roller:
Apply bonding adhesive and roll the adhesive onto the mating surfaces. OR
 - b. Apply bonding adhesive by spraying and then rolling:
Spray on bonding adhesive then roll out with a solvent resistant paint roller.
7. Apply bonding adhesive as at coverage rate specified by manufacturer.
Coverage rate will differ with various substrates and/or climatic conditions.
8. Test bonding adhesive for readiness:
 - a. Allow bonding adhesive to flash off until tacky. Touch the bonding adhesive surface with a clean, dry finger to be certain that the adhesive does not stick or string. As you are touching the adhesive, pushing straight down to check for stringing, also push forward on the adhesive at an angle to ensure that the adhesive is ready throughout its thickness.
 - b. If either motion exposes wet or stringy adhesive when the finger is lifted, then it is not ready for mating. Flash off time will vary depending on ambient air conditions.
9. Roll the flashing into the adhesive evenly and carefully to minimize wrinkles.
10. Broom the flashing: To ensure proper contact, compress the flashing to the substrate with a stiff push broom.
11. Provide termination directly to the vertical substrate as shown by project drawings and manufacturers details.

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12. Flashing details shown on plans are for general guidance and may be modified by Contractor after review and approval of Engineer. Contractor shall review any particular flashing requirements of membrane manufacturer for warranty securement prior to construction with Engineer.
- F. Membrane Repair
1. Repair wrinkles within 18" of a splice or a puncture in the membrane:
 - a. A fishmouth or wrinkle, running toward a splice, within 18" of a splice must be repaired. The wrinkle must be cut out and patched with a piece of EPDM membrane having no factory seams. Provide a splice that extends a minimum of 3" beyond the boundaries of the cut in all directions. If the wrinkle occurs through uncured flashing, then uncured flashing shall be used for repair, but the uncured flashing may not extend onto the roof surface more than 6". If repairing the same wrinkle must continue, the EPDM membrane must be used; install EPDM membrane first. Round all corners of repair piece.
 - b. Repair a puncture in the EPDM membrane with EPDM membrane. The repair must extend a minimum of 3" beyond the boundary of the affected area in all directions. Round all corners of the repair piece. (Example: A pinhole will require a 6"x 6" surface splice.)
 2. Clean the membrane: When repairing membrane which has been in service for some time, it is necessary to remove accumulated field dirt. Proper membrane preparation is made by first scrubbing the membrane with a scrub brush and warm soapy water, then rinsing with clear water and drying with clean cotton cloths. Clean the area using clean cotton cloths with unleaded gas, white gas, splice primer, or heptane. A second cleaning using clean cotton cloths with unleaded gas, white gas, splice primer, or heptane is often necessary.
 3. Install splice: Repairs must be made with splice adhesive. Refer to manufacturer's specifications for splicing procedures.
 4. Membrane repairs due to lack of traffic protection, carelessness by Contractor, improper relaxation of sheet, or other factors that are the Contractor's responsibility shall be kept to a minimum.
 5. If the amount of patches on a roof comprises 15% of the total roof area, Contractor will be required to replace or install new membrane over existing at his own expense.
- G. Existing supports/roof access/ladder access locations
1. Contractor shall install new membrane manufacturer's walkway pad under all ladder location/landings and other access points on the roof. Walkway pad shall be of sufficient size for all of these locations.
 2. Walkway pad installation. Install per EPDM manufacturer's recommendations. Prepare underlying EPDM sheet as required for installation.

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- H. New field seams within “ponding areas”
 - 1. In areas where ponding may not be removed totally from new roof installation, Contractor shall cover any seams within additional ponding areas with another piece of EPDM material for a “double seam” cover. In this case the definition of “ponding” is any significant amount (1/4” depth minimum) of water over seam for a short duration of time (4 hours).

3.6 SHEET METAL WORK

- A. Counterflashings, copings, and other perimeter or penetration metal work shall be properly fastened and sealed by the roofing contractor or others, and it shall be their responsibility to maintain this work in a watertight condition. Care should be taken to assure the membrane is not in contact with sharp edges and is supported over any gap larger than ¼ inch.

3.7 TEMPORARY WATER CUTOFFS (Suggested method)

- A. Water cutoffs shall be installed to prevent water from flowing beneath the completed roof assembly during inclement weather.
- B. The roof membrane shall be extended at least 2 feet over the last row of insulation (where applicable) and a continuous layer of watertight sealant applied onto the substrate a minimum of 10 inches from the membrane edge. Mating surfaces must be smooth, clean, and free from any loose foreign material.
- C. Firmly embed roof membrane into sealant and provide continuous pressure over the length of the cutoff by using sufficient ballast.
- D. Where applicable, use asphaltic bitumen and strip of roof membrane for tie-off.
- E. Water cutoff is suggested as follows:
 - 1. Using asphalt roofing cement, apply water cutoffs consisting of two strips of waterproof sheet material at exposed edges of the completed insulation and roofing membrane. Extend the first strip of sheeting 6 inches on top of the applied felts. The second strip shall lap the first strip by 3 inches on each side. Apply the strips to the roof deck, applied felts, and to each other.
 - 2. Withhold roofing cement from the edges of the insulation.
 - 3. When the application of the insulation and roofing system is resumed, cut the strips of sheet material along the vertical edges of the insulation, exposing the edges of the insulation, and remove the cutoff sheets and materials from the deck flutes.
 - 4. Other methods for temporary seal shall be submitted to Engineer and Construction Manager.

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3.8 FINAL INSPECTION

- A. Upon completion of the installation, an inspection shall be made by a field technical representative of the membrane manufacturer for issuance of a warranty. Engineer and Construction Manager shall be notified 48 hours in advance if possible of the final inspection time for his schedule. Upon completion of the inspection, the Contractor shall submit to the Engineer a written report of the field technical representative's findings. Contractor shall prepare detailed drawing showing all field seam locations on the ballasted roof for delivery to Engineer, Construction Manager and Owner.
- B. Engineer shall provide a punch list of deficient items related to the project. The punch list should be completed within 20 days (weather allowing) after the Contractor receives all punch lists.

END OF SECTION 07 53 23

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SECTION 07 62 00
FLASHING AND SHEET METAL

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- 3.7 GUTTERS, DOWNSPOUTS AND CONDUCTOR HEADS
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- 3.8 REPAIRING
- 3.10 CLEANING

PART 1- GENERAL

1.1 DESCRIPTION OF WORK

- A. The types and extent of flashing and sheet metal work includes but is not limited to:
 - 1. Roof edge and counter flashing.
 - 2. Roof penetrations.
 - 3. Through wall-scupper sleeves.
 - 4. Gutters and downspouts.
- B. Perimeter metal roof edge shall be manufactured and installed to meet SMACNA Technical Resources Bulletin dated May 1, 2009 to meet requirements of the current International Building Code enforced by the governing body and meet requirements of ANS/SPRI 4435 ES-1 Wind Design Standard for Edge Systems for Low-Slope Roof Systems.
- C. Information for gutter configuration shown on plans that has been tested to meet ANS/SPRI GT-1 - Test Standard for Gutter Systems shall be provided.

1.2 SUBMITTALS

- A. Shop Drawings (As requested):
 - 1. Submit shop drawings as requested by Engineer or Owner for gravel stops, gutters and downspouts, and counter flashing.
 - 2. Drawings to show joints, types and locations of fasteners and special shapes.
- B. Samples (As requested):
 - 1. Show pattern, finish, color and thickness of materials not receiving paint.

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- C. Manufacturer's literature for prefinished materials, if requested by Engineer.

1.3 GUARANTEE

- A. Contractor shall guarantee materials and workmanship against defects or leaks for five years starting on the date of final acceptance by Owner.
- B. Pre-finished metal shall have a minimum 20-year warranty against chalking, fading, and rusting.
- C. Submit all warranties at time of project closeout.

PART 2- PRODUCTS

2.1 SHEET METAL

- A. Galvanized Steel:
 - 1. Flat type min. 1 lb. per square foot.
 - 2. FS QQ-S-775E, Class d rating. (ASTM A525 & ASTM A526)
- B. Prefinished Galvanized Metal:
 - 1. 24 gage Galvanized metal with Kynar 500 coating except see requirements below for perimeter edge metal
 - a. Perimeter edge metal
 - 1. 24 gage minimum for 8 inches of total exposed face
 - 2. 22 gage minimum for 8 to 10 inches of total exposed face
 - 3. 20 gage minimum for 10 to 16 inches of total exposed face
 - b. Gutter, downspouts and conductor heads Thickness noted on plan.
 - 2. Acceptable Manufacturers :
 - a. Vincent Metals - "Colorklad"
 - b. Peterson Aluminum Co. - "Pac-Clad"
 - c. Firestone – "Una-Clad"
 - c. Approved Equivalent
 - 3. Properties
 - a. Finish face shall have a removable material film for protection during shipping and fabrication and installation.
 - b. Color to be selected by Engineer and Owner.
 - 4. Warranty
 - a. Manufacturer shall provide a written minimum 20-year labor and materials, non-prorated warranty covering chalking, fade, and film integrity.
 - b. Material shall not show a color change greater than 5 NBS color units per ASTM D-2244 or chalking in excess of 8 units per ASTM D-659. If either occurs during the 20-year period, material shall be replaced under terms of the warranty.

2.2 FASTENERS

- A. Nail heads and screws for continuous hook strips to be minimum of 3/16 inch.
- B. Fasteners shall be corrosion resistant steel or treated for corrosion resistance.
- C. Fasteners for exterior side of metal coping shall be No. 10 (5 mm) galvanized screws.
- D. All exposed fasteners shall be neoprene washered.

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PART 3- EXECUTION

3.1 INSPECTION

- A. Verify that substrates are smooth and clean to the extent needed for sheet metal work.
- B. Verify that reglets, nails, cants, and blocking to receive sheet metal are installed and free of concrete and dirt.
- C. If an existing sheet metal receiver is apparent on wall adjacent to roof, connect new metal flashing to existing receiver. Do **NOT** cover up existing receiver without consultation with Engineer/Owner.
- D. Do not start sheet metal work until conditions are satisfactory for installation.

3.2 PREPARATION

- A. Before installing sheet metal, verify shapes and dimensions of surface to be covered.

3.3 INSTALLATION

- A. General:
 - 1. Install work watertight, without waves, warps, buckles, fastening stress or distortion, allowing for expansion and contraction.
 - 2. Hem exposed edges.
 - 3. Angle bottom edges or exposed vertical surfaces to form drips.
 - 4. Fabricate all items in maximum lengths specified and per industry standards. Joints shall be held to a minimum. No section of visible sheet metal shall be longer than 10 feet.
- B. Install sealant at joint locations by applying minimum 1/4 inch diameter bead, centered on full length of joint.
- C. Install flashing and sheet metal to comply with Architectural Sheet Metal Manual, Sheet Metal and Air Conditioning Contractor's National Association, Inc. As a minimum, the following fastening requirements with approved fasteners will be met :
 - 1. Metal flanges at top of wall perimeter
 - a. Attach at annular ring or barb shank nails, 3" on center - staggered
 - b. Minimum width 3 3/4", maximum 4 1/4", recessed 1/2" from interior nailer edge.
 - c. Corners shall be formed, mitered, lapped, notched, sealed, welded, or soldered as necessary to provide a continuous system not more susceptible to leaks than straight sections.
 - 2. Exterior wall continuous clip: 24" on center, length of clip not to exceed 12 feet.
 - a. Fasten clip to the bottom piece of wood blocking. Do not fasten into joints of wood blocking. Minimum distance for vertical leg of clip to be 3".
 - b. Clip shall be minimum one gauge heavier than fascia or cap.
 - c. Bottom edge of clip shall extend a minimum of 1 inch below bottom edge of blocking or surface that clip is attached to. Minimum length of bent clip leg shall be 5/8".
Maximum angle from the vertical face to be 30°.
 - 3. Metal sections for exterior wall fascia and gravel stops should be secured on the flange with two nails through slotted holes for expansion and contraction. Nail heads should be somewhat larger than the slotted holes. Perimeter edge metal shall be fastened to meet the requirements of the SMACNA Technical Resources Bulletin dated May 1, 2009 to meet requirements of the IBC and ANS/SPRI 4435 ES-1 Wind Design Standard for Edge Systems

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- for Low-Slope Roof Systems.
4. New counter-flashing attached to existing through wall counter-flashing or receiver: 18" on center.
 5. Surface mounted counter-flashing : 24" on center
 6. Expansion joint cap and coping caps: 24" on center (for interior side of copings)
 7. Decrease distance to meet FM I-60 uplift OR per FM Loss Prevention Data Sheet 1-49 design requirements OR to prevent any gaps on top edge of metal.
- D. Fastener Installation
1. Screws shall penetrate substrate a minimum of 1 inch.
 2. Nails shall penetrate substrate a minimum of 1-1/4 inch.
- F. Prefinished Metal Installation
1. All metal corners shall be lapped a minimum of 3 inches with adjoining faces connected and set in sealant.
 2. Use touch up paint and fasteners that match color of metal.
 3. Remove prefinished coating by mechanical method if soldering required
 4. Fabricate and install with strippable film in place.
 5. Remove strippable film immediately after installation complete. Extended exposure of film to sunlight may damage prefinished coating.

3.4 SHOP OR FIELD FABRICATED METAL

- A. Fabrication shall be in accordance with current SMACNA recommendations and acceptable sheet metal practice.
- B. Perimeter metal roof edge shall be manufactured and installed to meet SMACNA Technical Resources Bulletin dated May 1, 2009 to meet requirements of the current International Building Code enforced by the governing body and meet requirements of ANS/SPRI 4435 ES-1 Wind Design Standard for Edge Systems for Low-Slope Roof Systems.
- C. All accessories or other items essential to the completeness of the normal sheet metal installation, whether specifically specified or not, shall be provided and installed as required.

3.5 COPING CAPS

- A. Provide positive drainage from all coping and control joint caps installed.
- B. Joints for metal coping shall utilize a minimum of 4" lap between sections. Place sealant approximately 1 inch from the edges of each metal section. Allow for expansion and contraction of the metal.
- C. On curved walls, contractor shall minimize joints as much as feasible. Provide Engineer a detail for joint layout on curve prior to fabrication for review and approval.

3.6 GRAVEL STOPS, FASCIA, COUNTER-FLASHING

- A. See drawings for particular requirements.
- B. Existing gravel stops, fascia and counter flashing that are removed may only be reused if their condition is acceptable to Engineer and Owner.
- C. Install gravel stops and fascia sections with 1/4" opening between sections. Install 6" cover-plate formed to the profile of the metal. Place sealant approximately 1 inch from the edges of each metal section. Nail the plate through the opening between the sections and loose lock the plate to the exterior wall side to the drip edge.

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- D. Counter-flashing sections shall be lapped a minimum of 2 inches.

3.7 GUTTERS, DOWNSPOUTS AND CONDUCTOR HEADS

- A. Downspouts to be a minimum 3" x 4" rectangular unless otherwise noted. Terminate within 8 inches of the drainage surface (if not connected to storm sewer). A 45 degree bend shall be at the bottom 8" of the downspout for non-sewer terminations. Exterior lip of downspout to be 1/4" wide.
- B. Downspout to be open-faced as unless otherwise noted on plans. A deflector shield bent at a 45⁰ angle will be installed from the bottom edge of the enclosed portion at the top of the downspout. Reinforcing braces and supports to be a minimum of 1/16 inch x 1" flat-stock material and of same material as downspout. The first reinforcing brace to be located a maximum of 5 feet from ground level. The maximum spacing distance for supports to be 6 feet.
- C. Gutter to be a minimum of 3" deep x 4" wide unless otherwise noted.
- D. Conductor head shall have depth of the top opening at least 2/3 of the width.
- E. Outlet tube to be a minimum of 4" length.
- F. Top of conductor head shall be a minimum of 1" below the scupper invert for overflow allowance.
- G. End joints for downspouts shall be lapped in the direction of water flow.
- H. Install expansion joints in gutter section for lengths greater than 40 feet unless otherwise noted on the plans.

3.8 WORKMANSHIP

- A. Work shall be accurately formed to sizes, shapes and dimensions indicated and detailed.
- B. All angles and lines shall be in true alignment.
- C. All work shall be straight, sharp and erected plumb and level in proper plane without bulges or waves.

3.9 REPAIRING

- A. Repair or replace any damaged work due to construction operation with new work.
- B. Any installation deemed as poor workmanship shall be removed and replaced or corrected to satisfaction of Owner and Engineer.

3.10 CLEANING

- A. Leave work clean and free of stains, scraps and debris.
- B. Any construction materials that are on any new or existing exposed sheet metal shall be removed or the metal removed and replaced.

END OF SECTION 07 62 00

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SECTION 07 92 13
SEALANTS

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PART I - GENERAL

1.1 WORK OF THIS SECTION

- A. Sealants

1.2 REFERENCE

- A. ASTM C920 Standard Specification for Elastomeric Joint Sealants
- B. ASTM C1193 Standard Guide for Use of Elastomeric Joint Sealants

1.3 SUBMITTALS

- A. Samples, if requested by Construction Manager or Engineer:
 - 1. Submit samples of full range of colors of each type of sealant for selection.
- B. Product data, if requested by Construction Manager or Engineer:
 - 1. Submit manufacturer's descriptive literature for each material.
- C. Location identification, as requested by Construction Manager or Engineer:
 - 1. Submit list of locations for each type of material

1.4 DELIVERY & STORAGE

- A. Deliver materials to job site in the manufacturer's original containers. Containers shall contain following information :
 - 1. Name of supplier and material
 - 2. Specification number or formula, lot number
 - 3. Instructions for mixing, application, curing time and storage
 - 4. Shelf life
- B. Store and install backer and sealant tape to prevent deformation of the material.

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1.5 WARRANTY

- A. Contractor/installer shall provide a five-year maintenance warranty on all labor and materials furnished under this specification. The warranty will be delivered to the Owner prior to time of project close out. Warranty shall commence at Substantial Completion inspection date or as agreed to by Engineer/Owner. Warranty work performed during five-year period shall be at no cost to Owner or Engineer.
- B. Defective work covered by the warranty shall include :
 - 1. Moisture infiltration through sealant
 - 2. Hardening and cracking of sealant
 - 3. Crumbling, melting or shrinkage of sealant
 - 4. Excess flow or staining of adjacent building components

PART II - PRODUCTS

2.1 MATERIAL

- A. Roof related
 - 1. Polyurethane, One-Component Sealant (typical exterior use for roof related flashing):
 - 2. Sealant shall meet or exceed the requirements of ASTM C920., Type S, Class 25, Grade NS, Use NT, M, A, T, O & I
 - 3. Approved manufacturers:
 - a. Tremco Vulkem® 116
 - b. BASF Masterseal "NP 1"
 - c. Approved equivalent
 - 4. Properties : Withstand movement to 25% extension and 25% compression. Gun-grade, non-sagging
- B. Pre-Cast wall related
 - 1. Polyurethane, One-Component Sealant :
 - 2. Sealant shall meet or exceed the requirements of ASTM C920., Type S, Class 25, Grade NS, Use T, NT, G, M, A, O
 - 3. Approved manufacturers:
 - a. Tremco Vulkem® 116
 - b. BASF Masterseal "NP 1"
 - c. Sika Sikaflex-15 LM
 - d. Approved equivalent
 - 4. Properties : Withstand movement to 25% extension and 25% compression. Gun-grade, non-sagging
- C. Backer-rod Material ;
 - 1. Polyolefin, polyethylene, urethane, neoprene closed-cell foam backer rod.
 - 2. Size: oversize 25% of joint width
 - 3. Chemically compatible with primers and sealants.
 - 4. Round solid rod, Shore A hardness 70
- D. Bond breaker tape - Polyethylene bond breaker tape that will not bond to sealant
- E. Color : Submit color selection to Construction Manager, Owner and Consultant for verification of color. In general, match color of existing metal components.

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- F. 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.
- G. 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.
- H. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART III - EXECUTION

3.1 FIELD 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 degrees F.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

3.2 APPLICATION

- A. General: Follow requirements of ASTM C1193
 - 1. No sealant shall be applied on damp, wet or frosty surfaces. Apply only when temperature is between 40°F and 80°F.
 - 2. Where the possibility of primer or sealant staining of adjacent areas or materials exists, joints shall be masked prior to application. Masking tape shall not be removed before joints have been tooled and initial cure of sealant has taken place. Work stained due to failure of proper masking precautions will not be accepted.
 - 3. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience of manufacturer. 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.
- B. Cleaning:
 - 1. Painted surfaces: Follow manufacturers recommended cleaning procedures prior to primer or sealant application.
 - 2. Metals, unpainted:
 - a. Galvanized steel: Clean and degrease with xylene or toluene.
- C. Back-up Material
 - 1. Install sealant backings of kind 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.
 - 2. Do not leave gaps between ends of sealant backings.

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3. Do not stretch, twist, puncture, or tear sealant backings.
 4. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
 5. Verify the compatibility of back-up material with sealant before installation.
 6. Use back-up material ½" wider than width of joint so that sufficient pressure is exerted by material to provide substantial resistance to displacement.
- D. Release Agent
1. Provide release agent or bond-breaker strip in joint to be sealed on top of back-up material to prevent adhesion of sealant to the back-up material per manufacturer's recommendations.
- E. Sealant Application:
1. Apply materials in accordance with the manufacturer's recommendations. Take care to produce beads of proper width and depth; to tool as recommended by the manufacturer, and to immediately remove surplus sealant.
 2. Apply materials only within manufacturer's specified application life period. If inspection indicates that application life is expired or if the prescribed application period has elapsed, remainder of sealant shall be discarded.
 3. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 4. Place sealants so they directly contact and fully wet joint substrates.
 5. Completely fill recesses in each joint configuration.
 6. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs 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 profile per Figure 8A in ASTM C 1193 unless otherwise indicated.
- G. On all metal laps, embed laps fully into sealant
- H. Sealant applications include but are not limited to the following:
1. Expansion and control joint covers (interior and exterior)
 2. Counter flashing joints
 3. Joints for metal edge
 4. All open joints or holes to seal building from the weather
 5. All exposed fasteners.
- I. Clean Up: Any adjacent surface to sealant material that is smeared or has excess material on, shall be cleaned by the Contractor at no additional cost to the Owner.

SECTION 07 92 13
SEALANTS

3.3 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, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 07 92 13