

**PROJECT MANUAL FOR:**

**Various Locations -  
Roof Replacement**

**PROJECT NO.: CP252841**

**AT:**

**UNIVERSITY OF MISSOURI - COLUMBIA  
COLUMBIA, MISSOURI**

**FOR:**

**THE CURATORS OF THE  
UNIVERSITY OF MISSOURI**

PREPARED BY:

**PWARCHITECTS, INC.**

ATTN: ERIC ROSELLE, AIA

2120 FORUM BOULEVARD, SUITE 101  
COLUMBIA, MISSOURI 65203

PHONE: (573) 449-2683

FAX: (573) 442-6213

**Issued for Bid  
November 21, 2025**

**ARCHITECT:**

I hereby certify that these Drawings and/or Specifications have been prepared by me, or under my supervision. I further certify that to the best of my knowledge these Drawings and/or Specifications are as required by and in compliance with Building Codes of the University of Missouri.



2025-11-21

Signature: \_\_\_\_\_

Eric S. Roselle – MO License No.: #A-2014036992

**Certified Drawings:**

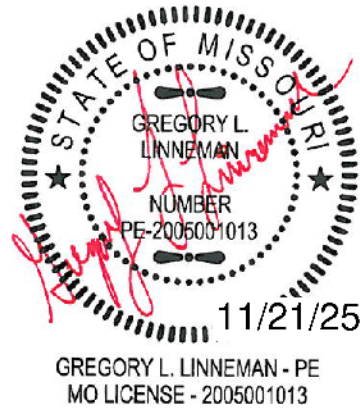
G001	COVER SHEET
G002	LOCATION MAP, TRAFFIC CONTROL PLAN, LIST OF DRAWINGS, LEGENDS
G003	STAGING PLANS & PROTECTION DETAILS
D101	DEMOLITION ROOF PLAN
A101	ROOF – KEY PLAN; ALTERNATES
A102	ROOF PLAN
A301	SECTIONS
A302	SECTIONS
A303	SECTIONS & DETAILS
A501	DETAILS
A502	DETAILS
A503	DETAILS
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A505	DETAILS
A506	DETAILS
A701	IMAGES
A702	IMAGES
A703	IMAGES
A704	IMAGES
A705	IMAGES

**Certified Specification Sections:**

02 4100	Demolition
06 1000	Rough Carpentry
07 2700	Air Barriers
07 4213	Metal Wall Panels
07 5300	Elastomeric Membrane Roofing
07 6200	Sheet Metal Flashing and Trim
07 9200	Joint Sealants
09 9000	Painting and Coating

**STRUCTURAL ENGINEER:**

I hereby certify that these Drawings and/or Specifications have been prepared by me, or under my supervision. I further certify that to the best of my knowledge these Drawings and/or Specifications are as required by and in compliance with Building Codes of the University of Missouri.



Signature: Gregory L. Linneman

Gregory L. Linneman, P.E. - MO License No.: PE-2005001013

**Certified Drawings:**

S101 ROOF INFILL PLAN

**Certified Specification Sections:**

05 1200 Structural Steel Framing  
05 3100 Steel Decking  
05 4000 Cold-Formed Metal Framing

PLANNING DESIGN & CONSTRUCTION

900 E. Stadium, Ste. 130  
Columbia, Missouri 65211  
Telephone: (573) 882-6800

ADVERTISEMENT FOR BIDS

Sealed bids for:

VARIOUS LOCATIONS –  
ROOF REPLACEMENT  
UNIVERSITY OF MISSOURI  
COLUMBIA, MISSOURI

PROJECT NUMBER: CP252841

CONSTRUCTION ESTIMATE: \$714,257 - \$793,619

will be received by the Curators of the University of Missouri, Owner, at Planning, Design & Construction, Room L100 (Front Reception Desk), General Services Building, University of Missouri, Columbia, Missouri 65211, until 1:30 p.m., C.S.T., January 20, 2026 and then immediately opened and publicly read aloud.

Drawings, specifications, and other related contract information may be obtained at <http://operations-webapps.missouri.edu/pdc/adsite/ad.html>. Electronic bid sets are available at no cost and may be printed as desired by the plan holders. No paper copies will be issued. If paper copies are desired, it is the responsibility of the user to print the files or have them printed.

Questions regarding the scope of work should be directed to Eric Roselle with PWArchitects, Inc. at 573 (449-2683 or [eroselle@pwarchitects.com](mailto:eroselle@pwarchitects.com). Questions regarding commercial conditions should be directed to Scott Smith at (573) 882-9217 or [smithws@missouri.edu](mailto:smithws@missouri.edu).

A prebid meeting will be held at 10:30 a.m., C.S.T., January 6, 2026 in the General Services Bldg., Room 194A, followed by a site walk-through.

This project has participations goals for Minority Business Enterprises (MBE), Women Business Enterprises (WBE) and Service-Disabled Veteran Business Enterprises (SDVE) as follows: 10% MBE, 10% WBE and 3% SDVE. Please see the Information for Bidders and General Conditions for additional information about the MBE/WBE/SDVE Participation Goals.

The Owner reserves the right to waive informalities in bids and to reject any and all bids.

Individuals with special needs as addressed by the Americans with Disabilities Act may contact (573) 882-6800.

Advertisement Date: December 15, 2025



**SECTION 00 0110**

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Project CP252841  
Columbia, Missouri

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SECTION 1.A

BID FOR LUMP SUM CONTRACT

Date: \_\_\_\_\_

BID OF \_\_\_\_\_  
(hereinafter called "Bidder") a corporation\* organized and existing under laws of the State of \_\_\_\_\_

a partnership\* consisting of \_\_\_\_\_,

an individual\* trading as \_\_\_\_\_,

a joint venture\* consisting of \_\_\_\_\_.

\*Insert Corporation(s), partnership or individual, as applicable.

TO: Curators of the University of Missouri  
c/o Associate Vice Chancellor – Facilities  
Room L100, General Services Building  
University of Missouri – Columbia  
Columbia, MO 65211

1. Bidder, in compliance with invitation for bids for construction work in accordance with Drawings and Specifications prepared by PWArchitects, Inc., entitled "Various Locations – Roof Replacement", project number CP252841, dated November 21, 2025, having examined Contract Documents and site of proposed work, and being familiar with all conditions pertaining to construction of proposed project, including availability of materials and labor, hereby proposes to furnish all labor, materials and supplies to construct project in accordance with Contract Documents, within time set forth herein at prices stated below. Prices shall cover all expenses, including taxes not covered by the University of Missouri's tax exemption status, incurred in performing work required under Contract documents, of which this Bid is a part.

Bidder acknowledges receipt of following addenda:

Addendum No. _____	Dated _____
Addendum No. _____	Dated _____
Addendum No. _____	Dated _____
Addendum No. _____	Dated _____

2. In following Bid(s), amount(s) shall be written in both words and figures. In case of discrepancy between words and figures, words shall govern.

3. **BID PRICING**

a. **Base Bid:**

The Bidder agrees to furnish all labor, materials, tools, and equipment required for roof replacement; all as indicated on the Drawings and described in these Specifications for sum of:

\_\_\_\_\_  
DOLLARS (\$\_\_\_\_\_).

b. Additive Alternate Bids:

Above Base Bid may be changed in accordance with following Alternate Bids as Owner may elect. Alternates are as described in Section 1.H of Project Manual. Alternates are written in a priority order, but Owner is not required to accept or reject in order listed. This is a one (1) contract project, therefore, Alternates shall be studied by each Bidder to determine effect on Bids of Contractor and each Subcontractor and/or Material supplier.

- (1) Additive Alternate No. 1: Remove and replace the existing wood decking over the east section of the 1923 Building; this area is identified in the drawings as "Alternate 1". Replacement decking shall be fluted steel decking as noted in the project documents. All for sum of:

---

DOLLARS (\$\_\_\_\_\_).

- (2) Additive Alternate No. 2: Remove and replace the existing wood decking over the west section of the 1923 Building; this area is identified in the drawings as "Alternate 2". Replacement decking shall be fluted steel decking as noted in the project documents. All for sum of:

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DOLLARS (\$\_\_\_\_\_).

4. PROJECT COMPLETION

a. Contract Period - Contract period begins on the day the Contractor receives unsigned Contract, Performance Bond, Payment Bond, and "Instructions for Execution of Contract, Bonds, and Insurance Certificates." Bidder agrees to complete project within Two-Hundred-Forty (240) calendar days from receipt of aforementioned documents. Fifteen (15) calendar days have been allocated in construction schedule for receiving aforementioned documents from Bidder.

b. Commencement - Contractor agrees to commence work on this project after the "Notice to Proceed" is issued by the Owner. "Notice to Proceed" will be issued within seven (7) calendar days after Owner receives properly prepared and executed Contract documents listed in paragraph 4.a. above.

5. SUBCONTRACTOR LIST:

Bidder hereby certifies that the following subcontractors will be used in performance of Work:

NOTE: Failure to list subcontractors for each category of work identified on this form or listing more than one subcontractor for any category of work without designating the portion of work performed by each shall be grounds for rejection of bid. List name, city, and state of designated subcontractor, for each category of work listed in Bid For Lump Sum Contract. If work within a category will be performed by more than one subcontractor, Bidder shall provide name, city, and state of each subcontractor and specify exact portion of work to be performed by each. If acceptance/non-acceptance of Alternates will affect designation of a subcontractor, Bidder shall provide information, for each affected category, with this bid form. If Bidder intends to perform any designated subcontract work by using Bidder's own employees, then Bidder shall list their own name, city, and state. The bidder may petition the Owner to change a listed

subcontractor only within 48 hours of the bid opening. See Information For Bidders Section 16 List of Subcontractors for requirements.

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Work to be performed

Subcontractor Name,

City, State

---

**Sheetmetal**

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6. MBE/WBE/SDVE PARTICIPATION

- a. SDVE Bonus Preference: A three (3) point bonus preference will be given to a Bidder that is a certified Service-Disabled Veteran Business Enterprise (SDVE) doing business as Missouri firm, corporation, or individual, or that maintains a Missouri office or place of business, as stated in the Information for Bidders. By indicating "Yes" below, the Bidder certifies that the Bidder is certified as an SDVE by the State of Missouri, Office of Administration.

Yes \_\_\_\_\_ No \_\_\_\_\_

- b. MBE/WBE/SDVE Participation Goals: The Bidder shall have a goal of providing participation in the contract of Minority Business Enterprises (MBE) of ten percent (10%), with Women Business Enterprises (WBE) of ten percent (10%), and with Service-Disabled Veteran Business Enterprises (SDVE) of three percent (3%) of the awarded contract price for work to be performed.
- c. Good Faith Effort Waiver: Requests for waiver of these goals due to good faith effort shall be submitted on the attached Application For Waiver form. A determination by the UM Executive Director of Facilities Planning and Development that a good faith effort has not been made by Bidder to achieve above stated goals may result in rejection of the bid.
- d. The undersigned Bidder proposes to perform work with the MBE/WBE/SDVE participation level set forth below. An MBE/WBE/SDVE Compliance Evaluation form shall be submitted with this bid for each MBE/WBE/SDVE subcontractor to be used on this project.

MBE PERCENTAGE PARTICIPATION:

\_\_\_\_\_ percent (\_\_\_\_%)

WBE, DBE, and/or VETERAN PERCENTAGE PARTICIPATION:

\_\_\_\_\_ percent (\_\_\_\_%)

SDVE PERCENTAGE PARTICIPATION:

\_\_\_\_\_ percent (\_\_\_\_%)

7. BIDDER'S ACKNOWLEDGMENTS

a. Bidder declares that he has had an opportunity to examine the site of the work and he has examined Contract Documents; therefore, that he has carefully prepared his bid upon the basis thereof; that he has carefully examined and checked bid, materials, equipment and labor required thereunder, cost thereof, and his figures therefore. Bidder hereby states that amount, or amounts, set forth in bid is, or are, correct and that no mistake or error has occurred in bid or in Bidder's computations upon which this bid is based. Bidder agrees that he will make no claim for reformation, modifications, revisions or correction of bid after scheduled closing time for receipt of bids.

b. Bidder agrees that bid shall not be withdrawn for a period of Ninety (90) days after scheduled closing time for receipt of bids.

c. Bidder understands that Owner reserves right to reject any or all bids and to waive any informalities in bidding.

d. Accompanying the bid is a bid bond, or a certified check, or an irrevocable letter of credit, or a cashier's check payable without condition to "The Curators of the University of Missouri" which is an amount at least equal to five percent (5%) of amount of largest possible total bid herein submitted, including consideration of Alternates.

e. Accompanying the bid is a Bidder's Statement of Qualifications. Failure of Bidder to submit the Bidder's Statement of Qualifications with the bid may cause the bid to be rejected. Owner does not maintain Bidder's Statements of Qualifications on file.

f. It is understood and agreed that bid security of two (2) lowest and responsive Bidders will be retained until Contract has been executed and an acceptable Performance Bond and Payment Bond has been furnished. It is understood and agreed that if the bid is accepted and the undersigned fails to execute the Contract and furnish acceptable Performance/Payment Bond as required by Contract Documents, accompanying bid security will be realized upon or retained by Owner. Otherwise, the bid security will be returned to the undersigned.

8. BIDDER'S CERTIFICATE

Bidder hereby certifies:

a. His bid is genuine and is not made in interest of or on behalf of any undisclosed person, firm or corporation, and is not submitted in conformity with any agreement or rules of any group, association or corporation.

b. He has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid.

c. He has not solicited or induced any person, firm or corporation to refrain from bidding.

d. He has not sought by collusion or otherwise to obtain for himself any advantage over any other Bidder or over Owner.

e. He will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin in connection with performance of work.

f. By virtue of policy of the Board of Curators, and by virtue of statutory authority, a preference will be given to materials, products, supplies, provisions, and all other articles produced, manufactured, mined or grown within the State of Missouri. By virtue of policy of the Board of Curators, preference will also be given to all Missouri firms, corporations, or individuals, all as more fully set forth in "Information For Bidders."

9. BIDDER'S SIGNATURE

Note: All signatures shall be original; not copies, photocopies, stamped, etc.

Authorized Signature	Date
Printed Name	Title
Company Name	
Mailing Address	
City, State, Zip	
Phone No.	Federal Employer ID No.
Fax No.	E-Mail Address
Circle one:      Individual      Partnership      Corporation      Joint Venture	
If a corporation, incorporated under the laws of the State of _____	
Licensed to do business in the State of Missouri? ____yes    ____no	

(Each Bidder shall complete bid form by manually signing on the proper signature line above and supplying required information called for in connection with the signature. Information is necessary for proper preparation of the Contract, Performance Bond and Payment Bond. Each Bidder shall supply information called for in accompanying "Bidder's Statement of Qualifications.")

**END OF SECTION**

**UNIVERSITY OF MISSOURI**  
**BIDDER'S STATEMENT OF QUALIFICATIONS**

Submit with Bid for Lump Sum Contract in separate envelope appropriately labeled. Attach additional sheet if necessary.

1. Company Name \_\_\_\_\_  
Phone# \_\_\_\_\_ Fax #: \_\_\_\_\_  
Address \_\_\_\_\_
2. Number of years in business \_\_\_\_\_. If not under present firm name, list previous firm names and types of organization.  
\_\_\_\_\_  
\_\_\_\_\_
3. List contracts on hand (complete the following schedule, include telephone number).

Project & Address	Owner/Owner's Representative	Phone Number	Architect	Amount of your Contract	Percent Completed
4. General character of work performed by your company personnel.  
\_\_\_\_\_
5. List important projects completed in the last five (5) years on a type similar to the work now bid for, including approximate cost and telephone number.

Project & Address	Owner/Owner's Representative	Phone Number	Architect	Amount of your Contract	Percent Completed
6. Other experience qualifying you for the work now bid.  
\_\_\_\_\_  
\_\_\_\_\_
7. No default has been made in any contract complete or incomplete except as noted below:  
(a) Number of contracts on which default was made \_\_\_\_\_  
(b) Description of defaulted contracts and reason therefor \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. Are you or your company certified by the State of Missouri, Office of Administration as a Minority Business Enterprise (MBE), Women Business Enterprise (WBE), or Service-Disabled Veteran Business Enterprise (SDVE)?  
Yes \_\_\_\_\_ No \_\_\_\_\_



9. Have you or your company been suspended or debarred from working at any University of Missouri campus?

Yes \_\_\_\_\_ No \_\_\_\_\_ (If the answer is "yes", give details.)

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10. Have any administrative or legal proceedings been started against you or your company alleging violation of any wage and hour regulations or laws?

Yes \_\_\_\_\_ No \_\_\_\_\_ (If the answer is "yes", give details.)

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11. Workers Compensation Experience Modification Rates (last 3 yrs): \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Incidence Rates (last 3 years): \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

12. List banking references.

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13. (a) Do you have a current confidential financial statement on file with Owner?

Yes \_\_\_\_\_ No \_\_\_\_\_ (If not, and if desired, Bidder may submit such statement with bid, in a separate sealed and labeled envelope.)

- (b) If not, upon request will you file a detailed confidential financial statement within three (3) days?

Yes \_\_\_\_\_ No \_\_\_\_\_

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

\_\_\_\_\_  
Name of Organization

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title of Person Signing

END OF SECTION

**UNIVERSITY OF MISSOURI  
BIDDER'S STATEMENT OF QUALIFICATIONS  
FOR ASBESTOS ABATEMENT**

Submit with Bid for Lump Sum Contract in separate envelope appropriately labeled. Attach additional sheet if necessary.

1. Company Name \_\_\_\_\_ Phone# \_\_\_\_\_  
Address \_\_\_\_\_
2. State of Missouri Registration number \_\_\_\_\_
3. Number of years in business \_\_\_\_\_ If not under present firm name, list previous firm names and types of organization.  
\_\_\_\_\_  
\_\_\_\_\_
4. List contracts on hand (complete the following schedule, include telephone number).

Project & Address	Owner/Owner's Representative	Phone Number	Architect	Amount of your Contract	Percent Completed
5. General character of work performed by your company personnel.  
\_\_\_\_\_
6. List important projects completed in the last five (5) years on a type similar to the work now bid for, including approximate cost and telephone number.

Project & Address	Owner/Owner's Representative	Phone Number	Architect	Amount of your Contract	Percent Completed
7. Other experience qualifying you for the work now bid.  
\_\_\_\_\_  
\_\_\_\_\_
8. No default has been made in any contract complete or incomplete except as noted below:  
(a) Number of contracts on which default was made \_\_\_\_\_  
(b) Description of defaulted contracts and reason therefor  
\_\_\_\_\_  
\_\_\_\_\_
9. Are you or your company certified by the State of Missouri, Office of Administration as a Minority Business Enterprise (MBE), Women Business Enterprise (WBE), or Service-Disabled Veteran Business Enterprise (SDVE)?

- Yes \_\_\_\_\_ No \_\_\_\_\_
10. Have you or your company been suspended or debarred from working at any University of Missouri campus?  
Yes \_\_\_\_\_ No \_\_\_\_\_ (If the answer is "yes", give details.)
- \_\_\_\_\_
- \_\_\_\_\_
11. Have any administrative or legal proceedings been started against you or your company alleging violation of any wage and hour regulations or laws?  
Yes \_\_\_\_\_ No \_\_\_\_\_ (If the answer is "yes", give details.)
- \_\_\_\_\_
- \_\_\_\_\_
12. Workers Compensation Experience Modification Rates (last 3 yrs): \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Incidence Rates (last 3 years): \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_
13. List banking references.
- \_\_\_\_\_
- \_\_\_\_\_
14. (a) Do you have a current confidential financial statement on file with Owner?  
Yes \_\_\_\_\_ No \_\_\_\_\_ (If not, and if desired, Bidder may submit such statement with bid, in a separate sealed and labeled envelope.)
- (b) If not, upon request will you file a detailed confidential financial statement within three (3) days?  
Yes \_\_\_\_\_ No \_\_\_\_\_

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

\_\_\_\_\_  
Name of Organization

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title of Person Signing

**MBE/WBE/SDVE COMPLIANCE EVALUATION FORM**

This form shall be completed by Bidders and submitted with the Bidder's Statement of Qualifications form for each MBE/WBE/SDVE firm that will perform work under the contract. The undersigned submits the following data with respect to this firm's assurance to meet the goal for MBE/WBE/SDVE Participation.

1. Project: \_\_\_\_\_
2. Name of General Contractor: \_\_\_\_\_
3. Name of MBE/WBE/SDVE Firm: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_  
Status (check one)      MBE \_\_\_\_\_      WBE \_\_\_\_\_      Service-Disabled Veteran \_\_\_\_\_
4. Describe the work to be performed. (List Base Bid work and any Alternate work separately):  
Base Bid:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
  
5. Dollar amount of contract to be subcontracted to the MBE/WBE/SDVE firm:  
Base Bid:  
  
Alternate(s), (Identify separately):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
  
6. Is the proposed firm certified as an MBE/WBE/SDVE by the State of Missouri, Office of Administration?  
  
Yes \_\_\_\_\_      No \_\_\_\_\_

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

### **APPLICATION FOR WAIVER**

This form shall be completed and submitted with the Bidder's Statement of Qualifications. Firms wishing to be considered for award are required to demonstrate that a good faith effort has been made to meet the MBE/WBE/SDVE Participation Goals for that project. This form will be used to evaluate the extent to which a good faith effort has been made. The undersigned submits the following data with respect to the Bidder's efforts to meet the MBE/WBE/SDVE Participation Goals.

1. List pre-bid conferences your firm attended where MBE/WBE/SDVE Participation Goals were discussed.

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2. Identify advertising efforts undertaken by your firm which were intended to recruit potential MBE/WBE/SDVE subcontractors or suppliers for various aspects of this project. Provide names of newspapers, dates of advertisements and copies of ads that were run.

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3. Note specific efforts to contact in writing those MBE/WBE/SDVE firms capable of and likely to participate as subcontractors or suppliers for this project.

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4. Describe steps taken by your firm to divide work into areas in which MBE/WBE/SDVE firms would be capable of performing.

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5. What efforts were taken to negotiate with prospective MBE/WBE/SDVE? Include the names, addresses, and telephone numbers of MBE/WBE/SDVE firms contacted, a description of the information given to MBE/WBE/SDVE firms regarding plans and specifications for the assigned work, and a statement as to why additional agreements were not made with MBE/WBE/SDVE firms.

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6. List reasons for rejecting an MBE/WBE/SDVE firm which has been contacted.

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7. Describe the follow-up contacts with MBE/WBE/SDVE firms made by your firm after the initial solicitation.

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8. Describe the efforts made by your firm to provide interested MBE/WBE/SDVE firms with sufficiently detailed information about the plans, specifications and requirements of the contract.

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9. Describe your firm's efforts to locate MBE/WBE/SDVE firms.

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Based on the above stated good faith efforts made to meet the MBE/WBE/SDVE Participation Goals, the Bidder hereby requests that the original goal be waived and that the percentage goal for this project be set at \_\_\_\_\_ percent.

The undersigned hereby certifies, having read the answers contained in the foregoing Application for Waiver, that they are true and correct to the best of his/her knowledge, information and belief.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Date: \_\_\_\_\_

## AFFIDAVIT

"The undersigned swears that the foregoing statements are true and correct and include all material information necessary to identify and explain the operation of

(name of firm) as well as the ownership thereof. Further, the undersigned agrees to provide through the prime contractor or directly to the Contracting Officer current, complete and accurate information regarding actual work performed on the project, the payment therefore and any proposed changes, if any, of the project, the foregoing arrangements and to permit the audit and examination of books, records and files of the named firm. Any material misrepresentation will be grounds for terminating any contract which may be awarded and for initiating action under federal or state laws concerning false statements."

Note - If, after filing this information and before the work of this firm is completed on the contract covered by this regulation, there is any significant change in the information submitted, you must inform the UM Executive Director of Facilities Planning and Development of the change either through the prime contractor or directly.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Corporate Seal (where appropriate)

Date: \_\_\_\_\_

State of \_\_\_\_\_

County of \_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, before me appeared \_\_\_\_\_ to me personally known, who, being duly sworn, did execute the foregoing affidavit, and did state that he or she was properly authorized by \_\_\_\_\_ to execute the affidavit and did so as his or her own free act and deed.

(Seal)

\_\_\_\_\_  
Notary Public

Commission expires: \_\_\_\_\_

# **University of Missouri**

## **INFORMATION FOR BIDDERS**

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June 2025 Edition



## **1. Contract Documents and Definitions**

**1.1** The “Drawings,” “Specifications,” and “Contract Documents” are defined in the “General Conditions of the Contract for Construction.”

**1.2** The Drawings, Specifications, and other Contract Documents may be obtained as indicated in the Advertisement for Bids.

**1.3** As used herein, “Bid” refers to an offer or proposal submitted to the Owner to enter into a contract for the work identified in the Drawings, Specifications and other Contract Documents.

**1.4** As used herein, “Bidder” means an individual or business entity that submits a Bid to the Owner as a prime bidder or general contractor.

**1.5** All other terms used herein shall have the meanings defined herein or in the General Conditions of the Contract for Construction or other Contract Documents.

## **2. Bidder Obligations**

**2.1** Before submitting a Bid, each Bidder shall carefully examine the Drawings and Specifications and related Contract Documents, visit the site of the work, and fully inform themselves as to all existing conditions, facilities, restrictions, and other matters that could affect the work or the cost thereof.

**2.2** Each Bidder shall include in their Bid the cost of all work and materials required to complete the contract in a first-class manner, as specified in the Drawings, Specifications, and other Contract Documents. All work shall be done as defined in the Specifications and as indicated on the Drawings.

**2.3** Failure or omission of any Bidder to receive or to examine any form, instrument, addendum, or other document, or to visit the site of the work and acquaint themselves with existing conditions, shall in no way relieve the Bidder from any obligation with respect to their Bid or any awarded contract. No extra compensation will be allowed concerning any matter about which the Bidder should have fully informed themselves prior to submitting a Bid.

**2.4** Submission of a Bid shall be deemed acceptance by the Bidder of the above obligations and every obligation required by the Contract Documents in the event the Bid is accepted by the Owner.

## **3. Interpretation of Documents**

**3.1** If any prospective Bidder is in doubt about the meaning of any part of the Drawings, Specifications, or other Contract Documents, the Bidder shall submit a written request to the Architect for an interpretation.

**3.2** Any request for interpretation shall be delivered to the Architect at least one (1) week prior to time for receipt of bids.

**3.3** A Bid shall be based only on an interpretation issued in the form of an addendum mailed to each person or business

entity that is on the Architect’s record as having received a set of the Contract Documents.

**3.4** Bidders shall not be entitled to rely on oral interpretations or written statements not issued in an addendum from either the Architect or a representative, agent, or employee of the Owner.

## **4. Bids**

**4.1** Bids shall be submitted on a single “Bid for Lump Sum Contract” form (“Bid Form”) as furnished by the Owner or Architect. Bids shall be received separately or in combination as required by Bid Form

**4.2** In addition to the Bid Form, the Bid shall include any documents or information required to be submitted by this Information for Bidders or the Contract Documents.

**4.3** Bids shall include amounts for alternate bids, unit prices, and cost accounting data where required by the Bid Form.

**4.4** Bidders shall apportion each base Bid between various phases of the work, where stipulated in the Bid Form.

**4.5** Bids shall be presented in sealed envelopes, which shall be plainly marked “Bids for (indicate name of project from cover sheet)” and mailed or delivered to the building and room number specified in the Advertisement for Bids.

**4.6** Each Bidder shall be responsible for actual delivery of their bid during business hours, and it shall not be sufficient to show that a Bid was mailed in time to be received before scheduled closing time for receipt of bids, nor shall it be sufficient to show that a Bid was somewhere in a university facility.

**4.7** The Bidder’s price shall include all federal sales, excise, and similar taxes that may be lawfully assessed in connection with their performance of work and purchase of materials to be incorporated in the work. City and State taxes shall not be included as stated in the General Conditions of the Contract for Construction.

**4.8** No Bidder shall stipulate in their Bid any conditions not contained in the Bid Form or Contract Documents. Inclusion of any additional conditions or taking exception to any terms may result in rejection of the Bid.

**4.9** The Owner reserves the right to waive informalities in bids and to reject any or all bids.

## **5. Modification and Withdrawal of Bids**

**5.1** A Bidder may withdraw their Bid at any time before the scheduled closing time for receipt of bids. No Bidder may withdraw their Bid after the scheduled closing time for receipt of bids.

**5.2** Only a written request for modification or correction of a previously submitted Bid, contained in a sealed envelope that is plainly marked “Modification of Bid on (name of project on cover sheet),” which is addressed in the same manner as a Bid and

received by Owner before the scheduled closing time for receipt of bids, will be accepted and the Bid modified in accordance with such written request.

## **6. Signing of Bids**

**6.1** All bids shall be signed manually, by an individual authorized to sign on behalf of the Bidder. The title or office held by the person signing for the Bidder shall appear below the signature.

**6.2** A Bid should contain the full and correct legal name of the Bidder. If the Bidder is an entity registered with the Missouri Secretary of State, the Bidder's name on the Bid form should appear as shown in the Secretary of State's records.

**6.3** A Bid from a partnership or joint venture shall be signed in the name of the partnership or joint venture by at least one partner or joint venturer or by an Attorney-in-Fact. If signed by Attorney-in-Fact there should be attached to the Bid, a Power of Attorney evidencing authority to sign the Bid executed by all partners or joint venturers.

**6.4** A Bid from a corporation shall be signed by an officer of the corporation.

**6.5** A Bid from a limited liability company (LLC) shall be signed by a manager or a managing member of the LLC.

**6.6** A Bid from an individual or sole proprietor shall be signed in the name of the individual by the individual or an Attorney-in-Fact. If signed by Attorney-in-Fact there should be attached to the Bid, a Power of Attorney evidencing authority to sign the Bid executed by the individual.

## **7. Bid Security**

**7.1** Each Bid shall be accompanied by a Bid Bond, certified check, or cashier's check, acceptable to and payable without condition to "The Curators of the University of Missouri" in an amount at least equal to five percent (5%) of the Bidder's Bid including additive alternates ("Bid Security").

**7.2** Bid security is required as a guarantee that the Bidder will enter into a written contract and furnish a Performance Bond within the time and in form as specified herein or in the Contract Documents; and, if successful Bidder fails to do so, the Bid Security will be realized upon or retained by the Owner. The apparent low Bidder shall notify the Owner in writing within forty-eight (48) hours of the Bid opening of any circumstance that may affect the Bid Security including, but not limited to, an error in the Bid. This notification will not guarantee release of the Bidder's security and/or the Bidder from the Bidder's obligations.

**7.3** If a Bid Bond is given as a Bid Security, the amount of the Bid Bond may be stated as an amount equal to at least five percent (5%) of the Bid, including additive alternates, described in the Bid. The Bid Bond shall be executed by the Bidder and a responsible surety licensed in the State of Missouri with a Best's rating of no less than A-/XI.

**7.4** It is specifically understood that the Bid Security is a guarantee and shall not be considered as liquidated damages for failure of Bidder to execute and deliver the contract and Performance Bond, nor limit or fix the Bidder's liability to the Owner for any damages sustained because of failure to execute and deliver the required contract and Performance Bond.

**7.5** The Bid Security of the two (2) lowest, responsive, responsible bidders will be retained by the Owner until a contract has been executed and an acceptable Performance Bond has been furnished, as required hereby, when such Bid Security will be returned. The Bid Bonds of all other Bidders will be destroyed and all other alternative forms of Bid Security will be returned to them within ten (10) days after the Owner has determined the two (2) lowest, responsive, responsible bids.

## **8. Bidder's Statement of Qualifications**

**8.1** Each Bidder shall present evidence of their experience, qualifications, financial responsibility, and ability to carry out the terms of the contract by completing and submitting with their Bid the "Bidder's Statement of Qualifications" form included with the Bid documents.

**8.2** Financial information required to be included with the Statement of Qualifications may be submitted by the Bidder in a separately sealed envelope, which will not be opened by the Owner during the public Bid opening.

**8.3** The Bidder's Statement of Qualifications will be treated as confidential information by the Owner to the extent permitted by the Missouri Sunshine Law, Section 610.010, RSMo et seq.

**8.4** Bids not accompanied by the Bidder's Statement of Qualifications may be rejected.

## **9. Award of Contract**

**9.1** The Owner reserves the right to let other contracts in connection with the work, including, but not limited to, contracts for furnishing and installation of furniture, equipment, machines, appliances, and other apparatus.

**9.2** In awarding the contract, the Owner may take into consideration the ability of the Bidder, and their subcontractors, to handle promptly the additional work; the skill, facilities, capacity, experience, ability, responsibility, previous work, and financial standing of Bidder; the Bidder's ability to provide the required bonds and insurance; the quality, efficiency and construction of equipment proposed to be furnished; the period of time within which equipment is proposed to be furnished and delivered; success in achieving the specified MBE/WBE/SDVE Participation Goals or demonstrating a good faith effort to do so as described in Article 15 of this document; and the Bidder's status as suspended or debarred. Inability of any Bidder to meet the requirements mentioned above may be cause for rejection of their Bid.

## **10. Contract Execution**

**10.1** The awarded Bidder shall submit within fifteen (15) days from receipt of notice of award, the documents required in Article 9 of the General Conditions of the Contract for

Construction.

**10.2** No bids will be considered binding upon the Owner until all such required documents have been furnished. Failure of Contractor to execute and submit such documents within the time specified will be treated, at the option of the Owner, as a breach of the Bidder's Bid Security and the Owner shall be under no further obligation to the Bidder.

#### **11. Contract Security**

**11.1** When the Contract Sum exceeds \$50,000, the Contractor shall procure and furnish a Performance Bond and a Payment Bond in the form prepared by the Owner. Each bond shall be in the amount equal to one hundred percent (100%) of the Contract Sum, as well as adjustments to the Contract Sum. The Performance Bond shall secure and guarantee the Contractor's faithful performance of the Contract, including but not limited to the Contractor's obligation to correct any defects after final payment has been made as required by the Contract Documents. The Payment Bond shall secure and guarantee payment of all persons performing labor on the Project under the Contract and furnishing materials in connection with the Contract in accordance with Section 107.170, RSMo. These bonds shall be in effect through the duration of the Contract plus any Guaranty Period required by the Contract Documents.

**11.2** The bonds required hereunder shall meet all requirements of Article 11 of the General Conditions of the Contract for Construction.

**11.3** If the surety of any bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to conduct business in the State of Missouri is terminated, or it ceases to meet the requirements of this Article 11, the Contractor shall within ten (10) days substitute another bond and surety, both of which must be acceptable to the Owner. If the Contractor fails to make such substitution, the Owner may procure such required bonds on behalf of Contractor at Contractor's expense.

#### **12. Time of Completion**

**12.1** The awarded Contractor shall agree to commence work within five (5) days of the date "Notice to Proceed" is received from the Owner, and the entire work shall be completed by the completion date specified or within the number of consecutive calendar days stated in the Special Conditions. The duration of the construction period, when specified in consecutive calendar days, shall begin when the contractor receives notice requesting the documents required in Article 9 of the General Conditions of the Contract for Construction.

#### **13. Number of Contract Documents**

**13.1** The Owner will furnish the Contractor a copy of the executed contract, Performance Bond, and Payment Bond.

**13.2** The Owner will furnish the Contractor the number of copies of complete sets of Drawings and Specifications for the work, as well as clarification and change order Drawings pertaining to change orders required during construction as set forth in the Special Conditions.

#### **14. Missouri Products and Missouri Firms**

**14.1** The Curators of the University of Missouri have adopted a policy which is binding upon all employees and departments of the University of Missouri, and which by contract, shall be binding upon independent contractors and subcontractors with the University of Missouri whereby all other things being equal, and when the same can be secured without additional cost over foreign products, or products of other states, a preference shall be granted in all construction, repair and purchase contracts, to all products, commodities, materials, supplies, and articles mined, grown, produced, and manufactured in marketable quantity and quality in the State of Missouri, and to all firms, corporations or individuals doing business as Missouri firms, corporations, or individuals. Each Bidder submitting a Bid agrees to comply with and be bound by the foregoing policy.

#### **14.2 MBE/WBE/SDVE Participation Award of Contract**

**14.2.1** Pursuant to Sections 37.020 and 34.074, RSM (and the implementing regulations adopted by the State of Missouri, Office of Administration), the University of Missouri System sets goals for the participation of Minority Business Enterprise, Women Business Enterprise and Service Disabled Veteran Business Enterprise (MBE/WBE/SDVE) Firms (as defined in Article 1 of the General Conditions of the Contract for Construction) in its construction projects. The applicable goals for each project shall be as stated in the Bid Form. The standard goals for University projects by location are identified in the document entitled MBE/WBE/SDVE Participation Goals; however, the Executive Director of Facilities Planning and Development may set higher or lower MBE or WBE goals for a specific project by reviewing the type of project, elements of work to be performed, time for contract performance, and geographical location, history of MBE/WBE and non-MBE/WBE utilization, and availability of ready, willing, and able certified MBE/WBEs.

**14.2.2** The Bidder shall have a minimum goal of providing participation of Minority Business Enterprise, Women Business Enterprise and/or Service Disabled Veteran Business Enterprise (MBE/WBE/SDVE) Firms in the project, through self-performance, if a MBE/WBE/SDVE Firm, or by subcontracting with MBE/WBE/SDVE Firms as subcontractors, suppliers, or manufacturers, in the amount of the percent of contract price stated in the Bid Form ("MBE/WBE/SDVE Participation Goals"). The Owner will take into consideration the Bidder's success in achieving the MBE/WBE/SDVE Participation Goals in awarding the contract. Inability of any Bidder to meet one or more of the MBE/WBE/SDVE Participation Goals shall be cause for rejection of their Bid, unless the Bidder has demonstrated that they made a good faith effort to comply as set forth below.

**14.2.3** In addition to the MBE/WBE/SDVE Participation Goals set forth in the Bid Form, a three (3) point bonus preference will be given to a Bidder that is a certified Service-Disabled Veteran Enterprises (SDVE) business doing business as Missouri firm, corporation, or individual, or that maintains a Missouri office or place of business. The bonus preference will **not** be given to a Bidder for the use of SDVE subcontractors, suppliers, or manufacturers. The bonus preference shall be calculated and applied by reducing the Bid amount of the SDVE Bidder by three

(3) percent of the apparent low, responsive Bidder's Bid. Based on this calculation, if the SDVE Bidder's resulting total Bid valuation is less than the Bid of the apparent low, responsive Bidder, the SDVE Bid becomes the apparent low, responsive Bid. This reduction is for evaluation purposes only and will have no impact on the actual amount(s) of the SDVE Bidder's Bid or the amount(s) of any contract awarded.

#### **14.3 List of MBE/WBE/SDVE Firms**

**14.3.1** The Bidder shall submit, within forty-eight (48) hours of the receipt of bids to the University Contracting Officer, a list of MBE/WBE/SDVE Firms that will be performing as contractor, subcontractor, supplier, or manufacturer on the project. The list shall separately identify each MBE/WBE/SDVE Firm by name and address. If acceptance or non-acceptance of alternates will affect the designation of a subcontractor, supplier, or manufacturer, the Bidder shall provide information for each affected category.

**14.3.2** Failure to include a complete list of MBE/WBE/SDVE Firms that will be used to meet the MBE/WBE/SDVE Participation Goals may be grounds for rejection of the Bid.

**14.3.3** The list of MBE/WBE/SDVE Firms shall be submitted in addition to any other listing of subcontractors required in the Bid Form or elsewhere in this document.

#### **14.4 MBE/WBE/SDVE Participation Computation**

**14.4.1** The Bidder may count toward the Supplier Diversity Goal only expenditures to MBE/WBE/SDVE Firms that perform a commercially useful function in the work of a contract. An MBE/WBE/SDVE Firm is considered to perform a commercially useful function when it is responsible for executing a distinct element of the work or contract and is carrying out its responsibilities by actually performing managing and supervising the work.

**14.4.2** The Bidder may count toward its MBE/WBE/SDVE Participation Goals work granted to a second or subsequent tier subcontractor that is an MBE/WBE/SDVE Firm provided the MBE/WBE/SDVE Firm assumes the actual and contractual responsibility for performing work on the project. The Bidder may count toward its MBE/WBE/SDVE Participation Goals expenditures for materials and/or supplies obtained from an MBE/WBE/SDVE Firm, provided the MBE/WBE/SDVE Firm assumes the actual and contractual responsibility for the provision of the materials and/or supplies. To perform a commercially useful function, a supplier or manufacturer that is an MBE/WBE/SDVE Firm must be responsible for negotiating price, determining quality and quantity, ordering the material, installing (where applicable) and paying for the material itself.

**14.4.3** An MBE/WBE/SDVE Firm does not perform a commercially useful function if its role is solely that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of participation. In determining whether a firm is such an extra participant, the Owner will examine similar transactions, particularly those in which MBE/WBE/SDVE Firms do not participate.

**14.4.4** A Bidder that is a certified MBE/WBE/SDVE may count one hundred percent 100% of the contract amount towards the applicable MBE/WBE/SDVE Participation Goal, less any amount awarded to another MBE/WBE/SDVE Firm. For projects with separate MBE/WBE/SDVE Participation Goals, the Bidder will be required to obtain participation in the other categories for which it is not certified through participation by subcontractors, suppliers, or manufacturers. Therefore, an MBE Bidder is expected to obtain the required WBE and SDVE participation; a WBE Bidder is expected to obtain the required MBE and SDVE participation; and a SDVE Bidder is expected to obtain the required MBE and WBE participation.

**14.4.5** If the Bidder is a joint venture and the joint venture itself is certified as a MBE/WBE/SDVE Firm, the joint venture may count toward the MBE/WBE/SDVE Participation Goals that portion of the total dollar value of the work equal to the percentage of the ownership and control of the MBE/WBE/SDVE Firm that is a participant in the joint venture. When a MBE/WBE/SDVE Firm performs work as a participant in a joint venture where the joint venture is **not** separately certified as an MBE/WBE/SDVE Firm, only the portion of the Contract Sum equal to the distinct, clearly defined portion of the work that the MBE/WBE/SDVE Firm performs with its own forces shall count toward the MBE/WBE/SDVE Participation Goals.

**14.4.6** If an MBE/WBE/SDVE Firm is certified in more than one category, that MBE/WBE/SDVE Firm may be used to satisfy more than one MBE/WBE/SDVE Participation Goal, provided that the MBE/WBE/SDVE Firm is awarded a sufficient percentage of the contract work to meet or exceed all applicable MBE/WBE/SDVE Participation Goals.

#### **14.5 Certification of MBE/WBE/SDVE Firms**

**14.5.1** The Bidder shall submit, within forty-eight (48) hours of the time for receipt of bids, to the University Contracting Officer, the information requested in the "MBE/WBE/SDVE Compliance Evaluation Form" for every MBE/WBE/SDVE Firm the Bidder intends to award work to under the contract to meet the MBE/WBE/SDVE Participation Goals.

**14.5.2** The Bidder is responsible for obtaining information regarding the certification status of an MBE/WBE/SDVE Firm. Firms must be certified as an MBE, WBE or SDVE, as applicable, by the State of Missouri, Office of Administration as of the date of bid opening.

#### **14.6 MBE/WBE/SDVE Participation Waiver**

**14.6.1** The Bidder is required to make a good faith effort to locate and contract with MBE/WBE/SDVE Firms. If a Bidder has made a good faith effort to secure the required MBE/WBE/SDVE Participation and has failed, the Bidder shall submit within forty-eight (48) hours of the time for receipt of bids, to the University Contracting Officer the information requested in "Application for MBE/WBE/SDVE Participation Waiver." The Contracting Officer will review the Bidder's actions as set forth in the Bidder's "Application for Waiver" and any other factors deemed relevant by the Contracting Officer to determine if a good faith effort has been made to meet the MBE/WBE/SDVE Participation

Goal(s). If the Bidder is judged not to have made a good faith effort, the Bid may be rejected. Bidders who demonstrate that they have made a good faith effort to meet the MBE/WBE/SDVE Participation Goal(s) may be awarded the contract regardless of the actual percent of MBE/WBE/SDVE Participation, provided that the Bid is otherwise acceptable and is determined to be the lowest, responsive, responsible Bid.

**14.6.2** To determine the good faith effort of the Bidder, the Contracting Officer may evaluate factors including, but not limited to, the following:

**14.6.2.1** The bidder's attendance at pre-bid conferences for the solicitation;

**14.6.2.2** The bidder's efforts and methods to provide M/WBEs and SDVEs with full sets of plans, specifications, or appropriate information in a timely manner to assist the M/WBE or SDVE in responding to the bidder's solicitation. This could include conducting market research to identify M/WBEs and SDVEs, and providing emails or written notices to all certified M/WBEs listed in OA's directory and listed SDVEs that specialize in the areas of work desired and which are located in the applicable area or surrounding areas as early in the acquisition process as practicable. Pro forma mailings to M/WBEs or SDVEs requesting bids are not alone sufficient to satisfy good faith efforts;

**14.6.2.3** The bidder's efforts to make initial contact with at least three (3) M/WBEs and SDVEs for each category of work to be performed, its follow up with those contacted, and whether the bidder received a proposal for those categories of work;

**14.6.2.4** The bidder's efforts to assist interested M/WBEs and SDVEs in obtaining bonding, lines of credit, or insurance or the efforts made to assist in obtaining necessary equipment, supplies, materials, or related assistance or services;

**14.6.2.5** The extent to which the bidder divided work into projects suitable for subcontracting to M/WBEs and SDVEs including, where appropriate, breaking out contract work items into economically feasible units, for example, smaller tasks or quantities to facilitate M/WBE or SDVE participation, even when the bidder might otherwise prefer to perform the work with its own forces. Prime contractors are not, however, required to accept higher quotes from M/WBEs or SDVEs if the price difference is excessive or unreasonable, but the fact that there may be some additional costs involved in finding and using M/WBEs or SDVEs is not in itself sufficient reason for a bidder's failure to meet the contract M/WBE or SDVE percentage, as long as such costs are reasonable;

**14.6.2.6** The bidder's ability to provide sufficient evidence in the form of documentation that supports the information provided;

**14.6.2.7** The reasons provided by the bidder for the inability to reach a contract percentage and the ability of other bidders to meet the percentages, if applicable;

**14.6.2.8** Actual past participation of M/WBEs and SDVEs achieved by the bidder; and

**14.6.2.9** The rejection of an M/WBE or SDVE solely because its quotation for work was not the lowest received is not a sufficient good faith effort. However, a bidder is not required to accept an excessive or unreasonable quote in order to satisfy contract percentages.

#### **Submittal of Forms**

**14.7.1** Within forty-eight (48) hours of the time for receipt of bids, the apparent low Bidder shall submit to the University Contracting Officer all MBE/WBE/SDVE Compliance Evaluation Form(s), and/or Application for Waiver with supporting information, and an "Affidavit of MBE/WBE/SDVE Participation" for every MBE/WBE/SDVE Firm the Bidder intends to award work on the contract. The affidavit will be signed by both the Bidder and the MBE/WBE/SDVE Firm. Failure to submit the documents in the time indicated may result in rejection of the Bid.

#### **Additional Bid/Proposer Information**

**14.8.1** The Contracting Officer reserves the right to request from the apparent low Bidder additional, clarifying information regarding the Bidder's MBE/WBE/SDVE Participation and supporting documentation. The Bidder shall respond in writing to the Contracting Officer within twenty-four (24) hours of a request.

**14.8.2** The Contracting Officer reserves the right to request additional information after the Bidder has responded to prior requests. This information may include follow-up and/or clarification of the information previously submitted.

**14.8.3** The Bidder shall provide to the Owner information related to the MBE/WBE/SDVE Participation included in the Bidder's proposal, including, but not limited to, the complete Application for Waiver, evidence of certification of participating MBE/WBE/SDVE Firms, dollar amount of participation of MBE/WBE/SDVE Firms, information supporting a good faith effort as described above, and a list of all MBE/WBE/SDVE Firms that submitted bids to the Bidder with the MBE/WBE/SDVE Firm's price, and the name and the price of the firm awarded the scope of work.

#### **15. List of Subcontractors**

**15.1** If a list of subcontractors is required on the Bid Form, the Bidder shall list the name, city, and state of the firm(s) that will accomplish that portion of the contract requested in the space provided. This list is separate from both the list of MBE/WBE/SDVE Firms required in Section 15.2 and the complete list of subcontractors required in Section 10.1 of this document. Should the Bidder choose to perform any of the listed portions of the work with its own forces, the Bidder shall enter its own name, city, and state in the space provided. If acceptance or

non-acceptance of alternates will affect the designation of a subcontractor, the Bidder shall provide that information on the Bid Form.

**15.2** Failure of the Bidder to supply the list of subcontractors required or the listing of more than one subcontractor for any category without designating the portion of the work to be performed by each, shall be grounds for the rejection of the Bid. The Bidder can petition the Owner to change a listed subcontractor within forty-eight (48) hours of the Bid opening. The Owner reserves the right to make the final determination on a petition to change a subcontractor. The Owner will consider factors such as clerical and mathematical errors in the Bid, a listed subcontractor's inability to perform the work, etc. Any request to change a listed subcontractor shall include at a minimum, a Bid sheet showing tabulation of the Bid; all subcontractor bids with documentation of the time they were received by the contractor; and a letter from the listed subcontractor on their letterhead stating why they cannot perform the work if applicable. The Owner reserves the right to ask for additional information.

**15.3** Upon award of the contract, the requirements of Article 10 herein and Article 5 of the General Conditions of the Contract for Construction will apply.

University of Missouri

General Conditions

of the

Contract

for

Construction

June 2025 Edition

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## **ARTICLE 1 GENERAL PROVISIONS**

### **1.1 Basic Definitions**

As used in the Contract Documents, the following terms shall have the meanings and refer to the parties designated in these definitions.

#### **1.1.1 Owner**

The Owner is The Curators of the University of Missouri. The Owner may act through its Board of Curators or any duly authorized committee or representative thereof. The Owner may also be referred to herein as "University".

#### **1.1.2 Contracting Officer**

The Contracting Officer is the duly authorized representative of the Owner with the authority to execute contracts. Communications to the Contracting Officer shall be forwarded via the Owner's Representative.

#### **1.1.3 Owner's Representative**

The Owner's Representative is authorized by the Owner as the administrator of the Contract and will represent the Owner during the progress of the Work. Communications from the Architect to the Contractor and from the Contractor to the Architect shall be through the Owner's Representative, unless otherwise indicated in the Contract Documents.

#### **1.1.4 Architect**

When the term "Architect" is used herein, it shall refer to the Architect or the Engineer specified and defined in the Contract for Construction or its duly authorized representative. Communications to the Architect shall be forwarded to the address shown in the Contract for Construction.

#### **1.1.5 Owner's Authorized Agent**

When the term "Owner's Authorized Agent" is used herein, it shall refer to an employee or agency acting on the behalf of the Owner's Representative to perform duties related to code inspections, testing, operational systems check, certification or accreditation inspections, or other specialized work.

#### **1.1.6 Contractor**

The Contractor is the person or entity with whom the Owner has entered into the Contract for Construction. The term "Contractor" means the Contractor or the Contractor's authorized representative.

#### **1.1.7 Subcontractor and Lower-tier Subcontractor**

A Subcontractor is a person or organization who has a contract with the Contractor to perform any of the Work. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or its authorized representative. The term "Subcontractor" also is applicable to those furnishing materials to be incorporated in the Work whether

performed at the Owner's site or off site, or both. A lower-tier Subcontractor is a person or organization who has a contract with a Subcontractor or another lower-tier Subcontractor to perform any of the Work at the site. Nothing contained in the Contract Documents shall create contractual relationships between the Owner or the Architect and any Subcontractor or lower-tier Subcontractor of any tier.

#### **1.1.8 Minority Business Enterprises (MBE)**

Minority Business Enterprise (MBE) shall have the meaning set forth in Section 37.020, RSMo and the implementing regulations promulgated by the State of Missouri, Office of Administration.

#### **1.1.9 Women Business Enterprise (WBE)**

Women Business Enterprise (WBE) shall have the meaning set forth in Section 37.020, RSMo and the implementing regulations promulgated by the State of Missouri Office of Administration.

#### **1.1.10 Service-Disabled Veteran Enterprise (SDVE)**

Service-Disabled Veteran Enterprise (SDVE) shall have the same meaning as "Service-Disabled Veteran Business" set forth in Section 34.074, RSMo and the implementing regulations promulgated by the State of Missouri, Office of Administration.

#### **1.1.11 MBE/WBE/SDVE Firm**

MBE/WBE/SDVE Firm shall mean a business entity that is certified as an MBE, WBE, and/or SDVE by the State of Missouri, Office of Administration.

#### **1.1.12 Work**

Work shall mean supervision, labor, equipment, tools, material, supplies, incidentals operations and activities required by the Contract Documents or reasonably inferable by the Contractor therefrom as necessary to produce the results intended by the Contract Documents in a safe, expeditious, orderly, and workmanlike manner, and in the best manner known to each respective trade.

#### **1.1.13 Approved**

The terms "approved", "equal to", "directed", "required", "ordered", "designated", "acceptable", "compliant", "satisfactory", and similar words or phrases will be understood to have reference to action on the part of the Architect and/or the Owner's Representative.

#### **1.1.14 Contract Documents**

The Contract Documents consist of (1) the executed Contract for Construction, (2) these General Conditions of the Contract for Construction, (3) any Supplemental Conditions or Special Conditions identified in the Contract for Construction, (4) the Specifications identified in the Contract for Construction, (5) the Drawings identified in the Contract for Construction, (6) Addenda issued prior to the receipt of bids, (7) Contractor's bid addressed to Owner, including Contractor's completed Qualification Statement, (8) Contractor's Performance Bond and Contractor's Payment Bond, (9) Notice to Proceed, (10)

and any other exhibits and/or post bid adjustments identified in the Contract for Construction, (11) Advertisement for Bid, (12) Information for Bidders, and (13) Change Orders issued after execution of the Contract. All other documents and technical reports and information are not Contract Documents, including without limitation, Shop Drawings, and Submittals.

#### **1.1.15 Contract**

The Contract Documents form the Contract and are the exclusive statement of agreement between the parties. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior representations or agreements, either written or oral. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Owner and a Subcontractor or any lower-tier Subcontractor.

#### **1.1.16 Change Order**

The Contract may be amended or modified without invalidating the Contract only by a Change Order, subject to the limitations in Article 7 and elsewhere in the Contract Documents. A Change Order is a written instrument signed by the Owner and the Contractor stating their agreement to a change in the Work, the amount of the adjustment to the Contract Sum, if any, and the extent of the adjustment to the Contract Time, if any. Agreement to any Change Order shall constitute a final settlement of all matters relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments of the Contract Sum, time and schedule.

#### **1.1.17 Substantial Completion**

The terms "Substantial Completion" or "substantially complete" as used herein shall be construed to mean the completion of the entire Work, including all submittals required under the Contract Documents, except minor items which in the opinion of the Architect, and/or the Owner's Representative will not interfere with the complete and satisfactory use of the facilities for the purposes intended.

#### **1.1.18 Final Completion**

The date when all punch list items are completed, including all closeout submittals and approval by the Architect is given to the Owner in writing.

#### **1.1.19 Supplemental and Special Conditions**

The terms "Supplemental Conditions" or "Special Conditions" shall mean the part of the Contract Documents which amend, supplement, delete from, or add to these General Conditions.

#### **1.1.20 Day**

The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

#### **1.1.21 Knowledge**

The terms "knowledge," "recognize" and "discover" their respective derivatives and similar terms in the Contract Documents, as used in reference to the Contractor, shall be interpreted to mean that which the Contractor knows or should know, recognizes, or should recognize and discovers or should discover in exercising the care, skill, and diligence of a diligent and prudent contractor familiar with the Work. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a diligent and prudent contractor familiar with the Work.

#### **1.1.22 Punch List**

"Punch List" means the list of items, prepared in connection with the inspection(s) of the Project by the Owner's Representative or the Architect in connection with Substantial Completion of the Work or a portion of the Work, which the Owner's Representative or the Architect has designated as remaining to be performed, completed, or corrected before the Work will be accepted by the Owner.

#### **1.1.23 Force Majeure**

An event or circumstance that could not have been reasonably anticipated and is out of the control of both the Owner and the Contractor.

### **1.2 Specifications and Drawings**

**1.2.1** The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction system, standards and workmanship and performance of related services for the Work identified in the Contract for Construction. Specifications are separated into titled divisions for convenience of reference only. Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. Such separation will not operate to make the Owner or the Architect an arbiter of labor disputes or work agreements.

**1.2.2** The Drawings herein referred to, consist of drawings prepared by the Architect, and are enumerated in the Contract Documents.

**1.2.3** Drawings are intended to show general arrangements, design, and dimensions of work and are partly diagrammatic. Dimensions shall not be determined by scale or rule. If figured dimensions are lacking, they shall be supplied by the Architect on the Contractor's written request to the Owner's Representative.

**1.2.4** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complimentary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract

Documents and reasonably inferable from them as being necessary to produce the intended results.

**1.2.5** In the event of inconsistencies within or between parts of the Contract Documents, or between the Contract Documents and applicable standards, codes and ordinances, the Contractor shall (1) provide the better quality or greater quantity of Work or (2) comply with the more stringent requirement; either or both in accordance with the Owner's Representative's interpretation. On the Drawings, given dimensions shall take precedence over scaled measurements and large-scale drawings over small scale drawings. Before ordering any materials or doing any Work, the Contractor and each Subcontractor shall verify measurements at the Work site and shall be responsible for the correctness of such measurements. Any difference which may be found shall be submitted to the Owner's Representative and the Architect for resolution before proceeding with the Work. If a minor change in the Work is found necessary due to actual field conditions, the Contractor shall submit detailed drawings of such departure for the approval by the Owner's Representative and the Architect before making the change.

**1.2.6** Data in the Contract Documents concerning lot size, ground elevations, present obstructions on or near the site, locations and depths of sewers, conduits, pipes, wires, etc., position of sidewalks, curbs, pavements, etc., and nature of ground and subsurface conditions have been obtained from sources the Architect believes reliable, but the Architect and the Owner do not represent or warrant that this information is accurate or complete. The Contractor shall verify such data to the extent possible through normal construction procedures, including but not limited to contacting utility owners and by prospecting.

**1.2.7** Only Work included in the Contract Documents is authorized, and the Contractor shall do no work other than that described therein.

**1.2.8** Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents. The Contractor represents that it has performed its own investigation and examination of the Work site and its surroundings and satisfied itself before entering into this Contract as to:

- .1 conditions bearing upon transportation, disposal, handling, and storage of materials;
- .2 the availability of labor, materials, equipment, water, electrical power, utilities and roads;
- .3 uncertainties of weather, river stages, flooding and similar characteristics of the site;
- .4 conditions bearing upon security and protection of material, equipment, and Work in progress;
- .5 the form and nature of the Work site, including the surface and sub-surface conditions;

- .6 the extent and nature of Work and materials necessary for the execution of the Work and the remedying of any defects therein; and
- .7 the means of access to the site and the accommodations it may require and, in general, shall be deemed to have obtained all information as to risks, contingencies and other circumstances.
- .8 the ability to complete work without disruption to normal campus activities, except as specifically allowed in the Contract Documents.

The Owner assumes no responsibility or liability for the physical condition or safety of the Work site, or any improvements located on the Work site. The Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or Contract Time concerning any failure by the Contractor or any Subcontractor to comply with the requirements of this Paragraph.

**1.2.9** Drawings, specifications, and copies thereof furnished by the Owner are and shall remain the Owner's property. They are not to be used on another project and, with the exception of one contract set for each party to the Contract, shall be returned to the Owner's Representative on request, at the completion of the Work.

### **1.3 Required Provisions Deemed Inserted**

Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though it were included herein; and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the written application of either party the Contract shall forthwith be physically amended to make such insertion or correction.

## **ARTICLE 2 OWNER**

### **2.1 Information and Services Required of Owner**

**2.1.1** Permits and fees are the responsibility of the Contractor under the Contract Documents, unless specifically stated in the Contract Documents that the Owner will secure and pay for specific necessary approvals, easements, assessments, and charges required for construction, use or occupancy of permanent structures, or for permanent changes in existing facilities.

**2.1.2** When requested in writing by the Contractor, information or services under the Owner's control, which are reasonably necessary to perform the Work, will be furnished by the Owner with reasonable promptness to avoid delay in the orderly progress of the Work.

### **2.2 Owner's Right to Stop the Work**

**2.2.1** If the Contractor fails to correct Work which is not in strict accordance with the requirements of the Contract

Documents or fails to carry out Work in strict accordance with the Contract Documents, the Owner's Representative may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work will not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity. The Owner's lifting of Stop Work Order shall not prejudice the Owner's right to enforce any provision of this Contract.

## **2.3 Owner's Right to Carry Out the Work**

**2.3.1** If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven (7) day period after receipt of a written notice from the Owner to correct such default or neglect, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. In such case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Architect's additional services and expenses made necessary by such default or neglect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to Owner. However, such notice shall be waived in the event of an emergency with the potential for property damage or the endangerment of students, faculty, staff, the public or construction personnel, at the sole discretion of the Owner.

**2.3.2** In the event the Contractor has not satisfactorily completed all items on the Punch List within thirty (30) days of its receipt, the Owner reserves the right to complete the Punch List without further notice to the Contractor or its surety. In such case, the Owner shall be entitled to deduct from payments then or thereafter due the Contractor the cost of completing the Punch List items, including compensation for the Architect's additional services. If payments then or thereafter due Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

## **2.4 Extent of Owner Rights**

**2.4.1** The rights stated in Article 2 and elsewhere in the Contract Documents are cumulative and not in limitation of any rights of the Owner (1) granted in the Contract Documents, (2) at law or (3) in equity.

**2.4.2** In no event shall the Owner have control over, charge of, or any responsibility for construction means, methods, techniques, sequences or procedures or for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the Owner in the Contract Documents.

## **ARTICLE 3 CONTRACTOR**

### **3.1 Contractor's Warranty**

**3.1.1** The Contractor warrants all equipment and materials furnished, and work performed, under this Contract, against defective materials and workmanship for a period of twelve months after acceptance as provided in this Contract, unless a longer period is specified, regardless of whether the same were furnished or performed by the Contractor or any Subcontractors of any tier. Upon written notice from the Owner of any breach of warranty during the applicable warranty period due to defective material or workmanship, the affected part or parts thereof shall be repaired or replaced by the Contractor at no cost to the Owner. Should the Contractor fail or refuse to make the necessary repairs, replacements, and tests when requested by the Owner, the Owner may perform, or cause the necessary work and tests to be performed, at the Contractor's expense, or exercise the Owner's rights under Article 14.

**3.1.2** Should one or more defects mentioned above appear within the specified period, the Owner shall have the right to continue to use or operate the defective part or apparatus until the Contractor makes repairs or replacements or until such time as it can be taken out of service without loss or inconvenience to the Owner.

**3.1.3** The above warranties are not intended as a limitation but are in addition to all other express warranties set forth in this Contract and such other warranties as are implied by law, custom, and usage of trade. The Contractor, and its surety or sureties, if any, shall be liable for the satisfaction and full performance of the warranties set forth herein.

**3.1.4** Neither the final payment nor any provision in the Contract Documents nor partial or entire occupancy of the premises by the Owner, nor expiration of warranty stated herein, will constitute an acceptance of Work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any responsibility for non-conforming work. The Contractor shall immediately remedy any defects in the Work and pay for any damage to other Work resulting therefrom upon written notice from the Owner. Should the Contractor fail or refuse to remedy the non-conforming work, the Owner may perform, or cause to be performed all actions necessary to bring the Work into conformance with the Contract Documents at the Contractor's expense.

**3.1.5** The Contractor agrees to defend, indemnify, and save harmless The Curators of the University of Missouri, their officers, agents, employees, and volunteers, from and against all loss or expense from any injury or damages to property of others suffered or incurred on account of any breach of the aforesaid obligations and covenants. The Contractor agrees to investigate, handle, respond to and provide defense for and defend against any such liability, claims, and demands at the sole expense of the Contractor, or at the option of the

University, agrees to pay to or reimburse the University for the defense costs incurred by the University in connection with any such liability claims, or demands. The parties hereto understand and agree that the University is relying on and does not waive or intend to waive by any provision of this Contract, any monetary limitations or any other rights, immunities, and protections provided by the State of Missouri, as from time to time amended, or otherwise available to the University, or its officers, employees, agents or volunteers.

### **3.2 Compliance with Laws, Regulations, Permits, Codes, and Inspections**

**3.2.1** The Contractor shall, without additional expense to the Owner, comply with all applicable laws, ordinances, rules, permit requirements, codes, statutes, and regulations (which may be collectively referred to as “laws”).

**3.2.2** Since the Owner is an instrumentality of the State of Missouri, municipal, or political subdivision, ordinances, zoning ordinances, and other like ordinances are not applicable to construction on the Owner’s property, and the Contractor will not be required to submit plans and specifications to any municipal or political subdivision authority to obtain construction permits or any other licenses or permits from or submit to, inspection by any municipality or political subdivision relating to the construction on the Owner’s property, unless required by the Owner in these Contract Documents or otherwise in writing.

**3.2.3** All fees, permits, inspections, or licenses required by municipality or political subdivision for operation on property not belonging to the Owner, shall be obtained by and paid for by the Contractor. The Contractor, of its own expense, is responsible to ensure that all inspections required by said permits or licenses on property, easements, or utilities not belonging to the Owner are conducted as required therein. All connection charges, assessments or transportation fees as may be imposed by any utility company or others are included in the Contract Sum and shall be the Contractor’s responsibility.

**3.2.4** If the Contractor has knowledge that any Contract Documents are at variance with any laws, including Americans with Disabilities Act – Standards for Accessible Design, ordinances, rules, regulations, or codes applying to the Work, Contractor shall promptly notify the Architect and the Owner’s Representative, in writing, and any necessary changes will be adjusted as provided in the Contract Documents. However, it is not the Contractor’s primary responsibility to ascertain that the Contract Documents are in accordance with applicable laws, unless such laws bear upon performance of the Work.

### **3.3 Anti-Kickback**

**3.3.1** No member or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this Contract or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this Contract if made with a corporation for its general benefit.

**3.3.2** No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction, or material supply contract or any Subcontract of any tier in connection with the construction of the Work shall have a financial interest in this Contract or in any part thereof, any material supply contract, Subcontract of any tier, insurance contract, or any other contract pertaining to the Work.

### **3.4 Supervision and Construction Procedures**

**3.4.1** The Contractor shall supervise and direct the Work, using the Contractor’s best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under the Contract. The Contractor shall supply sufficient and competent supervision and personnel, and sufficient material, plant, and equipment to prosecute the Work with diligence to ensure completion thereof within the time specified in the Contract Documents, and shall pay when due any laborer, Subcontractor of any tier, or supplier.

**3.4.2** The Contractor, if an individual, shall give the Work an adequate amount of personal supervision, and if a partnership, corporation, or joint venture or other business entity, the Work shall be given an adequate amount of personal supervision by a partner or executive officer, as determined by the Owner’s Representative.

**3.4.3** The Contractor and each of its Subcontractors of any tier shall submit to the Owner such schedules of quantities and costs, progress schedules in accordance with 3.18 this document, payrolls, reports, estimates, records, and other data as the Owner may request concerning Work performed or to be performed under the Contract.

**3.4.4** The Contractor shall be represented at the site by a competent superintendent from the beginning of the Work until its final acceptance, whenever Contract Work is being performed, unless otherwise permitted in writing by the Owner’s Representative. The superintendent for the Contractor shall exercise general supervision over the Work and such superintendent shall have decision making authority of the Contractor. Communications given to the superintendent shall be binding as if given to the Contractor. The superintendent shall not be changed by the Contractor without approval from the Owner’s Representative.

**3.4.5** The Contractor shall establish and maintain a permanent benchmark to which access may be had during progress of the Work, and Contractor shall establish all lines



and levels, and shall be responsible for the correctness of such. The Contractor shall be fully responsible for all layout work for the proper location of Work in strict accordance with the Contract Documents.

**3.4.6** The Contractor shall establish and be responsible for wall and partition locations. If applicable, separate contractors shall be entitled to rely upon these locations and for setting their sleeves, openings, or chases.

**3.4.7** The Contractor's scheduled outage/tie-in plan, time, and date for any utilities is subject to approval by the Owner's Representative. Communication with the appropriate entity and planning for any scheduled outage/tie-in of utilities shall be the responsibility of the Contractor. Failure of the Contractor to comply with the provisions of this Paragraph shall cause the Contractor to forfeit any right to an adjustment of the Contract Sum or Contract Time for any postponement, rescheduling or other delays ordered by the Owner in connection with such Work. The Contractor shall follow the following procedures for all utility outages/tie-ins or disruption of any building system:

- .1** All shutting of valves, switches, etc., shall be by the Owner's personnel.
- .2** The Contractor shall submit its preliminary outage/tie-in schedule with its baseline schedule.
- .3** The Contractor shall request an outage/tie-in meeting at least two weeks before the outage/tie-in is required.
- .4** The Owner's Representative will schedule an outage/tie-in meeting at least one week prior to the outage/tie-in.

**3.4.8** The Contractor shall coordinate all Work so there shall be no prolonged interruption of existing utilities, systems, and equipment of the Owner. Any existing plumbing, heating, ventilating, air conditioning, or electrical disconnection necessary, which affect portions of this construction or building or any other building, must be scheduled with the Owner's Representative to avoid any disruption of operation within the building under construction or other buildings or utilities. In no case shall utilities be left disconnected at the end of a workday or over a weekend. Any interruption of utilities, either intentionally or accidentally, shall not relieve the Contractor from repairing and restoring the utility to normal service. Repairs and restoration shall be made before the workers responsible for the repair and restoration leave the job.

**3.4.9** The Contractor shall be responsible for repair of damage to property on or off the project occurring during construction of project, and all such repairs shall be made to meet code requirements or to the satisfaction of the Owner's Representative if code is not applicable.

**3.4.10** The Contractor shall be responsible for all shoring required to protect the Work or adjacent property and shall pay for any damage caused by failure to shore or by improper shoring or by failure to give proper notice.

Shoring shall be removed only after completion of permanent supports.

**3.4.11** The Contractor shall maintain at the Contractor's own cost and expense, adequate, safe and sufficient walkways, platforms, scaffolds, ladders, hoists and all necessary, proper, and adequate equipment, apparatus, and appliances useful in carrying on the Work and which are necessary to make the place of Work safe and free from avoidable danger for students, faculty, staff, the public and construction personnel, and as may be required by safety provisions of applicable laws, ordinances, rules regulations and building and construction codes.

**3.4.12** During the performance of the Work, the Contractor shall be responsible for providing and maintaining warning signs, lights, signal devices, barricades, guard rails, fences, and other devices appropriately located on site which shall give proper and understandable warning to all persons of danger of entry onto land, structure, or equipment, within the limits of the Contractor's work area.

**3.4.13** The Contractor shall pump, bail, or otherwise keep any general excavations free of water. The Contractor shall keep all areas free of water before, during and after concrete placement. The Contractor shall be responsible for protection, including weather protection, and proper maintenance of all equipment and materials installed, or to be installed by the Contractor.

**3.4.14** The Contractor shall be responsible for care of the Work and must protect same from damage of defacement until acceptance by the Owner. All damaged or defaced Work shall be repaired or replaced to the Owner's satisfaction, without cost to the Owner.

**3.4.15** When requested by the Owner's Representative, the Contractor, at no extra charge, shall provide scaffolds or ladders in place as may be required by the Architect or the Owner for examination or inspection of Work in progress or completed.

**3.4.16** The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors of any tier and their agents and employees, and any other entity or persons performing portions of the Work.

**3.4.17** The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Owner's Representative or the Architect in their administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

**3.4.18** The Contractor shall be responsible for inspection of portions of the Work already performed under this Contract to determine that such portions are compliant and in proper condition to receive subsequent Work.

### **3.5 Use of Site**

**3.5.1** The Contractor shall limit operations and storage of material to the area within the Work limit lines shown on Drawings, except as necessary to connect to exiting utilities, shall not encroach on neighboring property, and shall exercise caution to prevent damage to existing structures.

**3.5.2** Only materials and equipment, which are to be used directly in the Work, shall be brought to and stored on the Work site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Work site. Protection of construction materials and equipment stored at the Work site from weather, theft, damage and all other adversity is solely the responsibility of the Contractor.

**3.5.3** No project signs shall be erected without the written approval of the Owner's Representative.

**3.5.4** The Contractor shall ensure that the Work is at all times performed in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. Particular attention shall be paid to access for emergency vehicles, including fire trucks. Wherever there is the possibility of interfering with normal emergency vehicle operations, the Contractor shall obtain permission from both campus and municipal emergency response entities prior to limiting any access. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the site of the Work shall be free from all debris, building materials and equipment likely to cause hazardous conditions. Without limitation of any other provision of the Contract Documents, the Contractor shall not interfere with the occupancy or beneficial use of (1) any areas and buildings adjacent to the site of the Work or (2) the Work in the event of partial occupancy. The Contractor shall assume full responsibility for any damage to the property comprising the Work or to the owner or occupant of any adjacent land or areas resulting from the performance of the Work.

**3.5.5** The Contractor shall not permit any workers to use any existing facilities at the Work site, including, without limitation, lavatories, toilets, entrances, and parking areas other than those designated by Owner. The Contractor, Subcontractors of any tier, suppliers and employees shall comply with instructions or regulations of the Owner's Representative governing access to, operation of, and conduct while in or on the premises and shall perform all Work required under the Contract Documents in such a manner as not to unreasonably interrupt or interfere with the conduct of the Owner's operations. Any request for Work, a suspension of Work or any other request or directive received by the Contractor from occupants of existing buildings shall be referred to the Owner's Representative for determination.

**3.5.6** The Contractor and the Subcontractor of any tier shall have its' name, acceptable abbreviation or recognizable logo and the name of the city and state of the mailing address of the principal office of the company, on each motor vehicle and motorized self-propelled piece of equipment which is used in connection with the project. The signs are required on such vehicles during the time the Contractor is working on the project.

### **3.6 Review of Contract Documents and Field Conditions by Contractor**

**3.6.1** The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Architect and the Owner and shall at once report in writing to the Architect and the Owner's Representative any errors, inconsistencies or omissions discovered. If the Contractor performs any construction activity which it knows or should have known involves a recognized error, inconsistency, or omission in the Contract Documents without such written notice to the Architect and the Owner's Representative, the Contractor shall assume appropriate responsibility for such performance and shall bear an appropriate amount of the attributable costs for correction.

**3.6.2** The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies, or omissions discovered shall be reported in writing to the Architect and the Owner's Representative within twenty-four (24) hours. During the progress of the Work, the Contractor shall verify all field measurements prior to fabrication of building components or equipment and proceed with the fabrication to meet field conditions. The Contractor shall consult all Contract Documents to determine the exact location of all work and verify spatial relationships of all work. Any question concerning said location or spatial relationships shall be submitted to the Owner's Representative. Specific locations for equipment, pipelines, ductwork and other such items of work, where not dimensioned on plans, shall be determined in consultation with the Owner's Representative and the Architect. The Contractor shall be responsible for the proper fitting of the Work in place.

**3.6.3** The Contractor shall provide, at the proper time, such material as required for support of the Work. If openings or chases are required, whether shown on Drawings or not, the Contractor shall see they are properly constructed. If required openings or chases are omitted, the Contractor shall cut them at the Contractor's own expense, but only as directed by the Architect, through the Owner's Representative.

**3.6.4** Should the Contract Documents fail to particularly describe materials or goods to be used, it shall be the duty of the Contractor to inquire of the Architect and the Owner's Representative what is to be used and to supply it at the Contractor's expense, or else thereafter replace it to the Owner's Representative's satisfaction. At a minimum, the

Contractor shall provide the quality of materials as generally specified throughout the Contract Documents.

### **3.7 Cleaning and Removal**

**3.7.1** The Contractor shall keep the Work site and surrounding areas free from accumulation of waste materials, rubbish, debris, and dirt resulting from the Work and shall clean the Work site and surrounding areas as requested by the Architect and the Owner's Representative, including mowing of grass greater than six (6) inches high. The Contractor shall be responsible for the cost of clean up and removal of debris from premises. The building and premises shall be kept clean, safe, in a workmanlike manner, and in compliance with OSHA standards and code at all times. At completion of the Work, the Contractor shall remove from and about the Work site tools, construction equipment, machinery, fencing, and surplus materials. Further, at the completion of the Work, all dirt, stains, and smudges shall be removed from every part of the building, all glass in doors and windows shall be washed, and entire Work shall be left broom clean in a finished state ready for occupancy. The Contractor shall advise his Subcontractors of any tier of this provision, and the Contractor shall be fully responsible for leaving the premises in a finished state ready for use to the satisfaction of the Owner's Representative. If the Contractor fails to comply with the provisions of this Paragraph, the Owner may do so, and the cost thereof shall be charged to the Contractor.

### **3.8 Cutting and Patching**

**3.8.1** The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

**3.8.2** The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

**3.8.3** If the Work involves renovation and/or alteration of existing improvements, the Contractor acknowledges that cutting and patching of the Work is essential for the Work to be successfully completed. The Contractor shall perform any cutting, altering, patching, and/or fitting of the Work necessary for the Work and the existing improvements to be fully integrated and to present the visual appearance of an entire, completed, and unified project. In performing any Work which requires cutting or patching, the Contractor shall use its best efforts to protect and preserve the visual appearance and aesthetics of the

Work to the reasonable satisfaction of both the Owner's Representative and the Architect.

### **3.9 Indemnification**

**3.9.1** To the fullest extent permitted by law, the Contractor shall defend, indemnify, and hold harmless the Owner, the Architect, the Architect's consultants, and the agents, employees, representatives, insurers and re-insurers of any of the foregoing (hereafter collectively referred to as the "Indemnitees") from and against claims, damages (including loss of use of the Work itself), punitive damages, penalties and civil fines unless expressly prohibited by law, losses and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from performance of the Work to the extent caused in whole or in part by negligent acts or omissions or other fault of the Contractor, a Subcontractor of any tier, or anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by the negligent acts or omissions or other fault of a party indemnified hereunder. The Contractor's obligations hereunder are in addition to and shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that the Owner may possess. If one or more of the Indemnitees demand performance by the Contractor of obligations under this Paragraph or other provisions of the Contract Documents and if the Contractor refuses to assume or perform, or delays in assuming or performing the Contractor's obligations, Contractor shall pay each Indemnitee who has made such demand its respective attorneys' fees, costs, and other expenses incurred in enforcing this provision. The defense and indemnity required herein shall be a binding obligation upon the Contractor whether or not an Indemnitee has made such demand. Even if a defense is successful to a claim or demand for which the Contractor is obligated to indemnify the Indemnitees from under this Paragraph, the Contractor shall remain liable for all costs of defense.

**3.9.2** The indemnity obligations of the Contractor under this Section 3.9 shall survive termination of this Contract or final payment thereunder. In the event of any claim or demand made against any party which is entitled to be indemnified hereunder, the Owner may in its sole discretion reserve, return or apply any monies due or to become due the Contractor under the Contract for the purpose of resolving such claims; provided, however, that the Owner may release such funds if the Contractor provides the Owner with reasonable assurance of protection of the Owner's interests. The Owner shall in its sole discretion determine if such assurances are reasonable. The Owner reserves the right to control the defense and settlement of any claim, action or proceeding which the Contractor has an obligation to indemnify the Indemnitees against.

**3.9.3** In claims against any person or entity indemnified under this Section 3.9 by an employee of the Contractor, a Subcontractor of any tier, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Section 3.9

shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor of any tier under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

**3.9.4** The obligations of the Contractor under Paragraph 3.9.1 shall not extend to the liability of the Architect, the Architect's agents or employees, arising out of the preparation and approval of maps, drawings, opinions, reports, surveys, Change Orders, designs, or Specifications.

### **3.10 Patents**

**3.10.1** The Contractor shall hold and save harmless the Owner and its officers, agents, servants, and employees from liability of any nature or kind, including cost and expense, for, or on account of, any patented or otherwise protected invention, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the Owner, unless otherwise specifically stipulated in the Contract Documents.

**3.10.2** If the Contractor uses any design, device, or material covered by letters patent or copyright, the Contractor shall provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device, or material. It is mutually agreed and understood, without exception, that the Contract Sum include, and the Contractor shall pay all royalties, license fees or costs arising from the use of such design, device, or material in any way involved in the Work. The Contractor and/or sureties shall indemnify and save harmless the Owner from any and all claims for infringement by reason of the use of such patented or copyrighted design, device, or material or any trademark or copyright in connection with Work agreed to be performed under this Contract and shall indemnify the Owner for any cost, expense, or damage it may be obligated to pay by reason of such infringement at any time during the prosecution of the Work or after completion of the Work.

### **3.11 Delegated Design**

**3.11.1** If the Contract Documents specify the Contractor is responsible for the design of any Work as part of the project, then the Contractor shall procure all design services and certifications necessary to complete the Work as specified, from a design professional licensed in the State of Missouri. The signature and seal of that design professional shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals related to the Work. The design professional shall maintain insurance as required per Article 11.

### **3.12 Materials, Labor, and Workmanship**

**3.12.1** Materials and equipment incorporated into the Work shall strictly conform to the Contract Documents and representations and approved Samples provided by Contractor and shall be of the most suitable grade of their respective kinds for their respective uses and shall be fit

and sufficient for the purpose intended, merchantable, of good new material and workmanship, and free from defect. Workmanship shall be in accordance with the highest standard in the industry and free from defect in strict accordance with the Contract Documents.

**3.12.2** Materials and fixtures shall be new and of latest design unless otherwise specified and shall provide the most efficient operating and maintenance costs to the Owner. All Work shall be performed by competent workers and shall be of best quality.

**3.12.3** The Contractor shall carefully examine the Contract Documents and shall be responsible for the proper fitting of his material, equipment, and apparatus into the building.

**3.12.4** The Contractor shall base its bid only on the Contract Documents.

**3.12.5** Materials and workmanship shall be subject to inspection, examination, and testing by the Architect and the Owner's Representative at any and all times during manufacture, installation, and construction of any of them, at places where such manufacture, installation, or construction is performed.

**3.12.6** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

**3.12.7** Unless otherwise specifically noted, the Contractor shall provide and pay for supervision, labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work.

### **3.12.8 Substitutions**

**3.12.8.1** A substitution is a Contractor proposal of an alternate product or method in lieu of what has been specified or shown in the Contract Documents, which is not an "or equal" as set forth in Section 3.13.

**3.12.8.2** The Contractor may make a proposal to the Architect and the Owner's Representative to use substitute products or methods as set forth herein, but the Architect's and the Owner's Representative's decision concerning acceptance of a substitute shall be final. The Contractor must do so in writing and setting forth the following:

- .1** Full explanation of the proposed substitution and submittal of all supporting data including technical information, catalog cuts, warranties, test results, installation instructions, operating procedures, and other like information necessary for a complete evaluation of the substitution.
- .2** Reasons the substitution is advantageous and necessary, including the benefits to the Owner and the Work in the event the substitution is acceptable.

- .3 The adjustment, if any, in the Contract Sum, in the event the substitution is acceptable.
- .4 The adjustment, if any, in the time of completion of the Contract and the construction schedule in the event the substitution is acceptable.
- .5 An affidavit stating that (a) the proposed substitution conforms to and meets all of the Contract Document requirements and is code compliant, except as specifically disclosed and set forth in the affidavit and (b) the Contractor accepts the warranty and correction obligations in connection with the proposed substitution as if originally specified by the Architect. Proposals for substitutions shall be submitted to the Architect and the Owner's Representative in sufficient time to allow the Architect and the Owner's Representative no less than ten (10) working days for review. No substitution will be considered or allowed without the Contractor's submittal of complete substantiating data and information as stated herein.

**3.12.8.3** Substitutions may be rejected without explanation at the Owner's sole discretion and will be considered only under one or more of the following conditions:

- .1 Required for compliance with interpretation of code requirements or insurance regulations then existing;
- .2 Unavailability of specified products, through no fault of the Contractor;
- .3 Material delivered fails to comply with the Contract Documents;
- .4 Subsequent information discloses inability of specified products to perform properly or to fit in designated space;
- .5 Manufacturer/fabricator refuses to certify or guarantee performance of specified product as required; or
- .6 When in the judgment of the Owner or the Architect, a substitution would be substantially to the Owner's best interests, in terms of cost, time, or other considerations.

**3.12.8.4** Whether or not any proposed substitution is accepted by the Owner or the Architect, the Contractor shall reimburse the Owner for any fees charged by the Architect or other consultants for evaluating each proposed substitution.

### **3.13 Approved Equal**

**3.13.1** Whenever in the Contract Documents any article, appliance, device, or material is designated by the name of a manufacturer, vendor, or by any proprietary or trade name, the words "or approved equal," shall automatically follow and shall be implied unless specifically indicated otherwise. The standard products of manufacturers other than those specified will be accepted when, prior to the ordering or use thereof, it is proven to the satisfaction of the Owner's Representative and the Architect they are equal in design, appearance, spare parts availability, strength, durability, usefulness, serviceability, operation cost, maintenance cost, and convenience for the purpose intended. Any general listings of approved manufacturers

in any Contract Document shall be for informational purposes only and it shall be the Contractor's sole responsibility to ensure that any proposed "or equal" complies with the requirements of the Contract Documents and is code compliant.

**3.13.2** The Contractor shall submit to the Architect and the Owner's Representative a written and full description of the proposed "or equal" including all supporting data, including technical information, catalog cuts, warranties, test results, installation instructions, operating procedures, and similar information demonstrating that the proposed "or equal" strictly complies with the Contract Documents. The Architect or the Owner's Representative shall take appropriate action with respect to the submission of a proposed "or equal" item. If Contractor fails to submit proposed "or equals" as set forth herein, it shall waive any right to supply such items. The Contract Sum and Contract Time shall not be adjusted as a result of any failure by Contractor to submit proposed "or equals" as provided for herein. All documents submitted in connection with preparing an "or equal" shall be clearly and obviously marked as a proposed "or equal" submission.

**3.13.3** No approvals or action taken by the Architect or Owner's Representative shall relieve the Contractor from its obligation to ensure that an "or equal" article, appliance, device, or material strictly complies with the requirements of the Contract Documents. The Contractor shall not propose "or equal" items in connection with Shop Drawings or other Submittals, and the Contractor acknowledges and agrees that no approvals or action taken by the Architect or Owner's Representative with respect to Shop Drawings or other Submittals shall constitute approval of any "or equal" item or relieve the Contractor from its sole and exclusive responsibility. Any changes required in the details and dimensions indicated in the Contract Documents for the incorporation or installation of any "or equal" item supplied by the Contractor shall be properly made and approved by the Architect at the expense of the Contractor. No "or equal" items will be permitted for components of or extensions to existing systems when, in the opinion of the Architect, the named manufacturer must be provided in order to ensure compatibility with the existing systems, including, but not limited to, mechanical systems, electrical systems, fire alarms, smoke detectors, etc. No action will be taken by the Architect with respect to proposed "or equal" items prior to receipt of bids, unless otherwise noted in the Special Conditions.

### **3.14 Shop Drawings, Product Data, Samples, and Coordination Drawings/BIM Models**

**3.14.1** Shop Drawings are drawings, diagrams, schedules, and other data specifically prepared for the Work by the Contractor or a Subcontractor, sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

**3.14.2** Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

**3.14.3** Samples are physical samples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

**3.14.4** Coordination Drawings are drawings for the integration of the Work, including work first shown in detail on Shop Drawings or product data. Coordination Drawings show sequencing and relationship of separate units of work which must interface in a restricted manner to fit in the space provided, or function as indicated. Coordination Drawings are the responsibility of the Contractor and are submitted for informational purposes. The Special Conditions will state whether Coordination Drawings are required. BIM models may be used for coordination in lieu of Coordination Drawings at the Contractor's discretion, unless required in the Special Conditions. The final Coordination Drawings/BIM Model will not change the Contract Documents, unless approved by a fully executed Change Order describing the specific modifications that are being made to the Contract Documents.

**3.14.5** Shop Drawings, Coordination Drawings/BIM Models, Product Data, Samples, and similar submittals (collectively referred to as "Submittals") are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents.

**3.14.6** The Contractor shall schedule submittal of Shop Drawings and Product Data to the Architect so that no delays will result in delivery of materials and equipment, advising the Architect of priority for checking of Shop Drawings and Product Data, but a minimum of two weeks shall be provided for this purpose. Because time is of the essence in this Contract, unless noted otherwise in the Special Conditions or Technical Specifications, all Submittals, Shop Drawings and Samples must be submitted as required to maintain the Contractor's plan for proceeding but must be submitted within ninety (90) days of the Notice to Proceed. If the Contractor believes that this milestone is unreasonable for any submittal, the Contractor shall request an extension of this milestone, within sixty (60) days of Notice to Proceed, for each submittal that cannot meet the milestone. The request shall contain a reasonable explanation as to why the ninety (90)-day milestone is unrealistic and shall specify a date on which the submittal will be provided, for approval by the Owner's Representative. Failure of the Contractor to comply with this Section may result in delays in the submittal approval process and/or charges for expediting approval, both of which will be the responsibility of the Contractor.

**3.14.7** The Contractor, at its own expense, shall submit Samples required by the Contract Documents with reasonable promptness as to cause no delay in the Work or the activities of separate contractors and no later than twenty

(20) days before materials are required to be ordered for scheduled delivery to the Work site. Samples shall be labeled to designate material or products represented, grade, place of origin, name of producer, name of the Contractor and the name and number of the Owner's project. Quantities of Samples shall be twice the number required for testing so that the Architect can return one set of the Samples. Materials delivered before receipt of Architect's approval may be rejected by the Architect and in such event, the Contractor shall immediately remove all such materials from the Work site. When requested by the Architect or the Owner's Representative, Samples of finished masonry and field applied paints and finishes shall be located as directed and shall include sample panels built at the site of approximately twenty (20) square feet each.

**3.14.8** The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples, or similar submittals until the respective submittal has been approved by the Architect. Such Work shall be in accordance with approved Submittals.

**3.14.9** By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents such Submittals strictly comply with the requirements of the Contract Documents and that the Contractor has determined and verified field measurements and field construction criteria related thereto, that materials are fit for their intended use and that the fabrication, shipping, handling, storage, assembly and installation of all materials, systems and equipment are in accordance with best practices in the industry and are in strict compliance with any applicable requirements of the Contract Documents. The Contractor shall also coordinate each Submittal with other Submittals.

**3.14.10** The Contractor shall be responsible for the correctness and accuracy of the dimensions, measurements and other information contained in the Submittals.

**3.14.11** Each Submittal will bear a stamp or specific indication that the Submittal complies with the Contract Documents and the Contractor has satisfied its obligations under the Contract Documents with respect to the Contractor's review and approval of that Submittal. Each Submittal shall bear the signature of the representative of the Contractor who approved the Submittal, together with the Contractor's name, Owner's name, number of the Project, and the item name and specification section number.

**3.14.12** The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals by the Architect's approval thereof. Specifically, but not by way of limitation, the Contractor acknowledges that the Architect's approval of Shop Drawings shall not relieve the Contractor for responsibility for errors and omissions in the Shop Drawings since the Contractor is responsible for the correctness of dimensions, details and the design of adequate connections and details contained in the Shop Drawings.

**3.14.13** The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous Submittals.

**3.14.14** The Contractor represents and warrants that all Shop Drawings shall be prepared by persons and entities possessing expertise and experience in the trade for which the Shop Drawing is prepared and, if required by the Architect or applicable laws, by a licensed engineer or other design professional.

### **3.15 Record Drawings**

**3.15.1** The Contractor shall maintain a set of Record Drawings on site in good condition and shall use colored pencils to mark up said set with "record information" in a legible manner to show: (1) bidding addendums, (2) executed Change Orders, (3) deviations from the Drawings made during construction; (4) details in the Work not previously shown; (5) changes to existing conditions or existing conditions found to differ from those shown on any existing drawings; (6) the actual installed position of equipment, piping, conduits, light switches, electric fixtures, circuiting, ducts, dampers, access panels, control valves, drains, openings, and stub-outs; and (7) such other information as either the Owner or the Architect may reasonably request. The prints for Record Drawing use will be a set of "blue line" prints provided by the Architect to the Contractor at the start of construction. Upon Substantial Completion of the Work, the Contractor shall deliver all Record Drawings to the Owner and the Architect for approval. If not approved, the Contractor shall make the revisions requested by the Architect or the Owner's Representative. Final payment and any retainage shall not be due and owing to the Contractor until the final Record Drawings marked by the Contractor as required above are delivered to the Owner.

### **3.16.1 Operating Instructions and Service Manuals**

**3.16.1** The Contractor shall submit four (4) volumes of operating instructions and service manuals to the Architect before completing 50% of the adjusted contract amount. Payments beyond 50% of the adjusted contract amount may be withheld until all operating instructions and service manuals are received. The operating instructions and service manuals shall contain:

- .1** Start-up and Shutdown Procedures: Provide a step-by-step write up of all major equipment. When manufacturer's printed start-up, trouble shooting and shut-down procedures are available, they may be incorporated into the operating manual for reference.
- .2** Operating Instructions: Written operating instructions shall be included for the efficient and safe operation of all equipment.
- .3** Equipment List: List of all major equipment as installed shall include model number, capacities, flow rate, and name-plate data.
- .4** Service Instructions: The Contractor shall be required to provide the following information for all pieces of equipment.

**.4.1** Recommended spare parts including catalog number and name of local suppliers or factory representative.

**.4.2** Belt sizes, types, and lengths.

**.4.3** Wiring diagrams.

**.5** Manufacturer's Certificate of Warranty: Manufacturer's certificates of warranty shall be obtained for all major equipment. Warranty shall be obtained for at least one year from the date of Substantial Completion. Where longer period is required by the Contract Documents, the longer period shall govern.

**.6** Parts catalogs: For each piece of equipment furnished, a parts catalog or similar document shall be provided which identifies the components by number for replacement ordering.

### **3.16.2 Submission**

**.1** Manuals shall be bound into volumes of standard 8 1/2" x 11" hard binders. Large drawings too bulky to be folded into 8 1/2" x 11" shall be separately bound or folded and in brown envelopes, cross-referenced and indexed with the manuals.

**.2** The manuals shall identify the Owner's project name, project number, and include the name and address of the Contractor and major Subcontractors of any tier who were involved with the activity described in that particular manual.

### **3.17 Taxes**

**3.17.1** The Contractor shall pay all applicable sales, consumer, use, and similar taxes for the Work which are legally enacted when the bids are received, whether or not yet effective or scheduled to go into effect. However, certain purchases by the Contractor of materials incorporated in or consumed in the Work are exempt from certain sales tax pursuant to Section 144.062, RSMo. The Contractor shall be issued a Project Tax Exemption Certificate for this Work to obtain the benefits of Section 144.062, RSMo.

**3.17.2** The Contractor shall furnish this certificate to all Subcontractors, and any person or entity purchasing materials for the Work shall present such certificate to all material suppliers as authorization to purchase, on behalf of the Owner, all tangible personal property and materials to be incorporated into or consumed in the Work and no other on a tax-exempt basis. Such suppliers shall provide to the purchasing party invoices bearing the name of the exempt entity and the project identification number. Nothing in this Section shall be deemed to exempt from any sales or similar tax the purchase of any construction machinery, equipment or tools used in construction, repairing or remodeling facilities for the Owner. All invoices for all personal property and materials purchased under a Project Tax Exemption Certificate shall be retained by the Contractor for a period of five years and shall be subject to audit by the Director of Revenue.

**3.17.3** Any excess resalable tangible personal property or materials which were purchased for the project under this Project Tax Exemption Certificate but which were not incorporated into or consumed in the Work shall either be returned to the supplier for credit or the appropriate sales or



use tax on such excess property or materials shall be reported on a return and paid by such purchasing party not later than the due date of the purchasing party's Missouri sales or use tax return following the month in which it was determined that the materials were not used in the Work.

**3.17.4** If it is determined that sales tax is owed by the Contractor on property and materials due to the failure of the Owner to revise the certificate expiration date to cover the applicable date of purchase, the Owner shall be liable for the tax owed.

**3.17.5** The Owner shall not be responsible for any tax liability due to the Contractor's neglect to make timely orders, payments, etc. or the Contractor's misuse of the Project Tax Exemption Certificate. The Contractor represents that the Project Tax Exemption Certificate shall be used in accordance with Section 144.062, RSMo and the terms of the Project Tax Exemption Certificate. The Contractor shall indemnify the Owner for any loss or expense, including but not limited to, reasonable attorneys' fees, arising out of the Contractor's use of the Project Tax Exemption Certificate.

### **3.18 Contractor's Construction Schedules**

**3.18.1** The Contractor, within fifteen (15) days after the issuance of the Notice to Proceed, shall prepare and submit for the Owner's and the Architect's information the Contractor's construction schedule for the Work and shall set forth interim dates for completion of various components of the Work and Work Milestone Dates as defined herein. The schedule shall not exceed time limits current under the Contract Documents, shall be revised on a monthly basis or as requested by the Owner's Representative as required by the conditions of the Work, and shall provide for expeditious and practicable execution of the Work. The Contractor shall conform to the most recent schedule.

**3.18.2** The construction schedule shall be in a detailed format satisfactory to the Owner's Representative and the Architect and in accordance with the detailed schedule requirements set forth in this document and the Special Conditions. If the Owner's Representative or the Architect has a reasonable objection to the schedule submitted by Contractor, the construction schedule shall be promptly revised by the Contractor. The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedule and shall promptly advise the Owner of any delays or potential delays.

**3.18.3** As time is of the essence to this Contract, the University expects that the Contractor will take all necessary steps to ensure that the project construction schedule shall be prepared in accordance with the specific requirements of the Special Conditions to this Contract. At a minimum, the Contractor shall comply with the following:

**.1** The schedule shall be prepared using Primavera P3, Oracle P6, Microsoft Project or other software acceptable to the Owner's Representative.

- .2** The schedule shall be prepared and maintained in CPM format, in accordance with Construction CPM Scheduling, published by the Associated General Contractors of American (AGC).
- .3** Prior to submittal to the Owner's Representative for review, the Contractor shall obtain full buy-in to the schedule from all major Subcontractors, in writing if so, requested by Owner's Representative.
- .4** Schedule shall be updated, in accordance with Construction CPM Scheduling, published by the AGC, on a monthly basis at minimum, prior to, and submitted with, the monthly pay application or as requested by the Owner's Representative.
- .5** Along with the update the Contractor shall submit a narrative report addressing all changes, delays and impacts, including weather to the schedule during the last month, and explain how the end date has been impacted by same.
- .6** The submission of the updated schedule certifies that all delays and impacts that have occurred on or to the project during the previous month have been factored into the update and are fully integrated into the schedule and the projected completion date.

Failure to comply with any of these requirements will be considered a material breach of this Contract. See Special Conditions for detailed scheduling requirements.

**3.18.4** In the event the Owner's Representative or the Architect determines that the performance of the Work, as of a Milestone Date, has not progressed or reached the level of completion required by the Contract Documents, the Owner shall have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction, including, without limitation, (1) working additional shifts or overtime, (2) supplying additional manpower, equipment, facilities, (3) expediting delivery of materials, and (4) other similar measures (hereinafter referred to collectively as "Extraordinary Measures"). Such Extraordinary Measures shall continue until the progress of the Work complies with the stage of completion required by the Contract Documents. The Owner's right to require Extraordinary Measures is solely for the purpose of ensuring the Contractor's compliance with the construction schedule. The Contractor shall not be entitled to an adjustment in the Contract Sum concerning Extraordinary Measures required by the Owner under or pursuant to this Paragraph. The Owner may exercise the rights furnished the Owner under or pursuant to this Paragraph as frequently as the Owner deems necessary to ensure that the Contractor's performance of the Work will comply with any Milestone Date or completion date set forth in the Contract Documents.

## **ARTICLE 4 ADMINISTRATION OF THE CONTRACT**

### **4.1 Rights of the Owner**

**4.1.1** The Owner's Representative will administer the Construction Contract. The Architect will assist the Owner's



Representative with the administration of the Contract as indicated in these Contract Documents.

**4.1.2** If, in the judgment of the Owner's Representative, it becomes necessary to accelerate the Work, the Contractor, when directed by the Owner's Representative in writing, shall cease work at any point and transfer its workers to such point or points and execute such portions of the Work as may be required to enable others to hasten and properly engage and carry out the Work, all as directed by the Owner's Representative. The additional cost of accelerating the Work, if any, will be borne by the Owner, unless the Contractor's work progress is behind schedule as shown on the most recent progress schedule.

**4.1.3** If the Contractor refuses, for any reason, to proceed with what the Owner believes to be Contract Work, the Owner may issue a Construction Directive, directing the Contractor to proceed. The Contractor shall be obligated to promptly proceed with such work. If the Contractor feels that it is entitled to additional compensation as a result of a Construction Directive, it may file a claim for additional compensation and/or time, in accordance with 4.4 of this Contract.

**4.1.4** The Owner's Representative may, by written notice, require the Contractor to remove from involvement with the Work, any of the Contractor's personnel or the personnel of its Subcontractors of any tier whom the Owner's Representative may deem abusive, incompetent, careless, or a hindrance to proper and timely execution of the Work. The Contractor shall comply with such notice promptly, but without detriment to the Work or its progress.

**4.1.5** The Owner's Representative will schedule Work status meetings that shall be attended by representatives of the Contractor and appropriate Subcontractors of any tier. Material suppliers shall attend status meetings if required by the Owner's Representative. These meetings shall include preconstruction meetings.

**4.1.6** The Owner does not allow smoking on University property.

## **4.2 Rights of the Architect**

**4.2.1** The Architect will interpret requirements of the Contract Documents with respect to the quality, quantity, and other technical requirements of the Work itself within a reasonable time after written request of the Contractor. The Contractor shall provide Owner's Representative a copy of such written request.

## **4.3 Review of the Work**

**4.3.1** The Architect, the Owner's Representative, and the Owner's Authorized Agent shall, at all times, have access to the Work; and the Contractor shall provide proper and safe facilities for such access.

**4.3.2** The Owner's Representative shall have authority to reject Work that does not strictly comply with the requirements of the Contract Documents. Whenever the Owner's Representative considers it necessary or advisable for implementation of the intent of the Contract Documents, Owner's Representative shall have the authority to require additional inspection or testing of the Work, whether or not such Work is fabricated, installed, or completed.

**4.3.3** The fact that the Architect or the Owner's Representative observed, or failed to observe, faulty Work, or Work done which is not in accordance with the Contract Documents, regardless of whether or not the Owner has released final payment, shall not relieve the Contractor from responsibility for all damages and additional costs of the Owner as a result of defective or faulty Work.

## **4.4 Claims**

**4.4.1** A Claim is a demand or assertion by the Contractor seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or any other relief with respect to the terms of the Contract. The term "Claim(s)" also includes demands and assertions of the Contractor arising out of or relating to the Contract Documents, including Claims based upon breach of contract, mistake, misrepresentation, or other cause for Contract Modification or rescission. Claims must be made by written notice. The Contractor shall have the responsibility to substantiate Claims.

**4.4.2** Claims by the Contractor must be made promptly, and no later than within fourteen (14) days after occurrence of the event giving rise to such Claim. Claims must be made by written notice. Such notice shall include a detailed statement setting forth all reasons for the Claim and the amount of additional money and additional time claimed by the Contractor. The notice of Claims shall also strictly comply with all other provisions of the Contract Documents. The Contractor shall not be entitled to rely upon any grounds or basis for additional money on additional time not specifically set forth in the notice of Claim. All Claims not made in the manner provided herein shall be deemed waived and of no effect. The Contractor shall furnish the Owner and the Architect such timely written notice of any Claim provided for herein, including, without limitation, those in connection with alleged concealed or unknown conditions, and shall cooperate with the Owner and the Architect in any effort to mitigate the alleged or potential damages, delay or other adverse consequences arising out of the condition which is the cause of such a Claim.

**4.4.3** Pending final resolution of a Claim, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments that are not in dispute in accordance with the Contract Documents.

## **4.5 Claims for Concealed or Unknown Conditions**

**4.5.1** If conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents, or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to

exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice by the Contractor shall be given to the Owner's Representative promptly before conditions are disturbed, and in no event later than three (3) days after first observance of the conditions. The Owner's Representative will promptly investigate such conditions. If such conditions differ materially, as provided for above and cause an increase or decrease in the Contractor's cost, or time, required for performance of the Work, an equitable adjustment in the Contract Sum or Contract Time, or both, shall be made, subject to the provisions and restrictions set for herein. If the Owner's Representative determines that the conditions at the site are not materially different from those indicated in the Contract Documents, and that no change in the terms of the Contract is justified, the Owner's Representative will so notify the Contractor in writing. If the Contractor disputes the finding of the Owner's Representative that no change in the terms of the Contract terms is justified, the Contractor shall proceed with the Work, taking whatever steps are necessary to overcome or correct such conditions so that Contractor can proceed in a timely manner. The Contractor may have the right to file a Claim in accordance with the Contract Documents.

**4.5.2** It is expressly agreed that no adjustment in the Contract Time or Contract Sum shall be permitted, however, in connection with a concealed or unknown condition which does not differ materially from those conditions disclosed or which reasonably should have been disclosed by the Contractor's (1) prior inspections, tests, reviews and preconstruction investigations for the Project, or (2) inspections, tests, reviews and preconstruction inspections which the Contractor had the opportunity to make or should have performed in connection with the Project.

#### **4.6 Claim for Additional Cost**

**4.6.1** If the Contractor makes a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. In addition to all other requirements for notice of a Claim, said notice shall detail and itemize the amount of all Claims and shall contain sufficient data to permit evaluation of same by the Owner.

#### **4.7 Claims for Additional Time**

**4.7.1** If the Contractor makes a Claim for an increase in the Contract Time, written notice as provided herein shall be given. In addition to other requirements for notice of a Claim, the Contractor shall include an estimate of the probable effect of delay upon the progress of the Work, utilizing a CPM Time Impact Schedule Analysis, (TIA) as defined in the AGC Scheduling Manual. In the case of a continuing delay, only one Claim is necessary.

**.1** Time extensions will be considered for excusable delays only. That is, delays that are beyond the control and/or contractual responsibility of the Contractor.

**4.7.2** If weather days are the basis for a Claim for additional time, such Claim shall be documented by the Contractor by data acceptable to the Owner's Representative substantiating that weather conditions for the period of time in question, had an adverse effect on the critical path of the scheduled construction. Weather days shall be defined as days on which critical path work cannot proceed due to weather conditions (including but not limited to rain, snow, etc.), in excess of the number of days shown on the anticipated weather day schedule in the Special Conditions. To be considered a weather day, at least four (4) working hours must be lost due to the weather conditions on a critical path scope item for that day. Weather days and anticipated weather days listed in the Special Conditions shall only apply to Monday through Friday. A weather day claim cannot be made for Saturdays, Sundays, New Year's Day, Martin Luther King Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the day after Thanksgiving Day and Christmas Day, unless that specific day was approved in writing for work by the Owner's Representative.

**.1** The Contractor must have fulfilled its contractual obligations with respect to temporary facilities and protection of its work, and worker protection for hot and cold weather per OSHA guidelines.

**.2** If the contractual obligations have been satisfied, the Owner will review requests for non-compensable time extensions for critical path activities as follows:

**.2.1** If the Contractor cannot work on a critical path activity due to adverse weather, after implementing all reasonable temporary weather protection, the Contractor will so notify the Owner's Representative. Each week, the Contractor will notify the Owner's Representative of the number of adverse weather days that it believes it has experienced in the previous week. As provided in the Contract, until such time as the weather days acknowledged by the Owner's Representative exceed the number of days of adverse weather contemplated in the Special Conditions, no request for extension of the Contract Time will be considered.

**.2.2** If the Contractor has accumulated in excess of the number of adverse weather days contemplated in the Special Conditions due to the stoppage of work on critical path activities due to adverse weather, the Owner will consider a time extension request from the Contractor that is submitted in accordance with the Contract requirements. The Owner will provide a Change Order extending the time for contract completion or direct an acceleration of the Work in accordance with the Contract terms and conditions to recover the time lost due to adverse weather in excess of the number of adverse weather working days contemplated in the Special Conditions.

**4.7.3** A Force Majeure event or circumstance shall not be the basis of a claim by the Contractor seeking an adjustment in the Contract amount for costs or expenses of any type. With the exception of weather delays, which are administered under Article 4, and notwithstanding other requirements of the Contract, all Force Majeure events resulting in a delay to the critical path of the project shall be administered as provided in Article 8.

**4.7.4** The Owner will consider and evaluate requests for time extensions due to changes or other events beyond the control of the Contractor on a monthly basis only, with the submission of the Contractor's updated schedule, in conjunction with the monthly application for payment.

#### **4.8 Resolution of Claims and Disputes**

**4.8.1** The Owner's Representative will review Claims and take one or more of the following preliminary actions within ten days of receipt of a Claim: (1) request additional supporting data from the Contractor, (2) reject the Claim in whole or in part, (3) approve the Claim, or (4) suggest a compromise.

**4.8.2** If a Claim has not been resolved, the Contractor shall, within ten (10) days after the Owner's Representative's preliminary response, take one or more of the following actions: (1) submit additional supporting data requested, (2) modify the initial Claim, or (3) notify the Owner's Representative that the initial Claim stands.

**4.8.3** If a Claim has not been resolved after consideration of the foregoing and of further information presented by the Contractor, the Contractor has the right to seek administrative review as set forth in Section 4.9. However, Owner's Representative's decisions on matters relating to aesthetics will be final.

#### **4.9 Administrative Review**

**4.9.1** Claims not resolved pursuant to the procedures set forth in the Contract Documents except with respect to Owner's Representative's decision on matters relating to aesthetic effect, and except for claims which have been waived by the making or acceptance of final payment, or the Contractor's acceptance of payments in full for changes in work may be submitted to administrative review as provided in this Section. All requests for administrative review shall be made in writing.

**4.9.2** Upon written request from the Contractor, the Owner's Review Administrator authorized by the Campus Contracting Officer will convene a review meeting between the Contractor and Owner's Representative within fifteen (15) days of receipt of such written request. The Contractor and Owner's Representative will be allowed to present written documentation with respect to the Claim(s) before or during the meeting. The Contractor and Owner's Representative will be allowed to present the testimony of any knowledgeable person regarding the Claim at the review meeting. The Owner's Review Administrator will issue a written summary of the review meeting and decision to resolve the Claim within fifteen (15) days. If the Contractor is in agreement with the decision the Contractor shall notify the Owner's Review Administrator in writing within five (5) days, and appropriate documentation will be signed by the parties to resolve the Claim.

**4.9.3** If the Contractor is not in agreement with the proposal of the Owner's Review Administrator as to the

resolution of the Claim, the Contractor may file a written appeal with the UM System Contracting Officer, [in care of the Executive Director of Facilities Planning and Development, University of Missouri, 130 General Services Building, University of Missouri, Columbia, Missouri 65211] within fifteen (15) days after receipt of the Owner's Review Administrator's proposal. The UM System Contracting Officer will call a meeting of the Contractor, the Owner's Representative, and the Owner's Review Administrator by written notice, within thirty (30) days after receipt of the Contractor's written appeal. The Owner's Review Administrator shall provide the UM System Contracting Officer with a copy of the written decision and summary of the review meeting, the Contractor's corrections, or comments regarding the summary of the review meeting, and any written documentation presented by the Contractor and the Owner's Representative at the initial review meeting. The parties may present further documentation and/or present the testimony of any knowledgeable person regarding the Claim at the meeting called by the UM System Contracting Officer.

**4.9.4** The UM System Contracting Officer will issue a written decision to resolve the claim within fifteen (15) days after the meeting. If the Contractor is in agreement with the UM System Contracting Officer's proposal, the Contractor shall notify the UM System Contracting Officer in writing within five (5) days, and the Contractor and the Owner shall sign appropriate documents. The issuance of the UM System Contracting Officer's written proposal shall conclude the administrative review process even if the Contractor is not in agreement. However, proposals and any opinions expressed in such proposals issued under this Section will not be binding on the Contractor nor will the decisions or any opinions expressed be admissible in any legal actions arising from the Claim and will not be deemed to remove any right or remedy of the Contractor as may otherwise exist by virtue of Contract Documents or Law. The Contractor and the Owner agree that the Missouri Circuit Court for the County where the Work is located shall have exclusive jurisdiction to determine all issues between them. The Contractor agrees not to file any complaint, petition, lawsuit or legal proceeding against the Owner except with such Missouri Circuit Court.

### **ARTICLE 5 SUBCONTRACTORS**

#### **5.1 Award of Subcontracts**

**5.1.1** Pursuant to Article 9, the Contractor shall furnish the Owner and the Architect, in writing, with the name, and trade for each Subcontractor and the names of all persons or entities proposed as manufacturers of products, materials and equipment identified in the Contract Documents and where applicable, the name of the installing contractor. The Owner's Representative will reply to the Contractor in writing if the Owner has reasonable objection to any such proposed person or entity. The Contractor shall not contract with a proposed person or entity to whom the Owner has made reasonable and timely objection.

**5.1.2** The Contractor may request to change a Subcontractor. Any such request shall be made in writing to the Owner's Representative. The Contractor shall not change a Subcontractor, person, or entity previously disclosed if the Owner makes reasonable objection to such change.

**5.1.3** The Contractor shall be responsible to the Owner for acts, defaults, and omissions of its Subcontractors of any tier.

## **5.2 Subcontractual Relations**

**5.2.1** By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor of any tier, to the extent of the Work to be performed by the Subcontractor of any tier, to be bound to the Contractor by terms of the Contract Documents and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner and the Architect. Each subcontract agreement of any tier shall preserve and protect the rights of the Owner and the Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor of any tier so that subcontracting thereof will not prejudice such rights and shall allow to the Subcontractor of any tier, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with its sub-subcontractors. The Contractor shall make available to each proposed Subcontractor of any tier, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor of any tier shall be bound. Subcontractors of any tier shall similarly make copies of applicable portions of such documents available to their respective proposed Subcontractors of any tier.

**5.2.2** All agreements between the Contractor and a Subcontractor or supplier shall contain provisions whereby Subcontractor or supplier waives all rights against the Owner, Contractor, Owner's Representative, the Architect and all other Additional Insureds for all losses and damages caused by, arising out of, or resulting from any of the perils covered by property or builders risk insurance coverage required of the Contractor in the Contract Documents. If Contractor fails to include said provisions in all subcontracts, Contractor shall indemnify, defend and hold all the above entities harmless in the event of any legal action by Subcontractor or supplier. If insureds on any such policies require separate waiver forms to be signed by any Subcontractors of any tier or suppliers, Contractor shall obtain the same.

## **5.3 Contingent Assignment of Subcontract**

**5.3.1** No assignment by the Contractor of any amount or any part of the Contract or of the funds to be received thereunder will be recognized unless such assignment has

had the written approval of the Owner, and the surety has been given due notice of such assignment and has furnished written consent hereto. In addition to the usual recitals in assignment Contracts, the following language must be set forth: "It is agreed that the funds to be paid to the assignee under this assignment are subject to performance by the Contractor of the Contract and to claims and to liens for services rendered or materials supplied for the performance of the Work called for in said Contract in favor of all persons, firms or corporations rendering such services or supplying such materials."

## **ARTICLE 6 SEPARATE CONTRACTS AND COOPERATION**

**6.1** The Owner reserves the right to let other contracts in connection with the Work.

**6.2** It shall be the duty of each Contractor to whom Work may be awarded, as well as all Subcontractors of any tier employed by them, to communicate immediately with each other in order to schedule Work, locate storage facilities, etc., in a manner that will permit all Contractors to work in harmony in order that Work may be completed in the manner and within the time specified in the Contract Documents.

**6.3** No Contractor shall delay another Contractor by neglecting to perform the Contractor's work at the proper time. Each Contractor shall be required to coordinate the Contractor's work with other Contractors to afford others reasonable opportunity for execution of their work. Any costs caused by defective, non-compliant, or ill-timed work, including actual damages and liquidated damages for delay, if applicable, shall be borne by the Contractor responsible therefor.

**6.4** Each Contractor shall be responsible for damage to the Owner's or another Contractor's property done by the Contractor or the Contractor's employees, through his or their fault or negligence. If any Contractor shall cause damage to any other Contractor, the Contractor causing such damage shall upon notice of any claim, settle with such Contractor.

**6.5** The Contractor shall not claim from the Owner money damages or extra compensation under this Contract when delayed in initiating or completing his performance hereunder, when the delay is caused by labor disputes, acts of God, or the failure of any other Contractor to complete the Contractor's performance under any Contract with the Owner, where any such cause is beyond the Owner's reasonable control.

**6.6** Progress schedule of the Contractor for the Work shall be submitted to other Contractors as necessary to permit coordinating their progress schedules.

**6.7** If Contractors or Subcontractors of any tier refuse to cooperate with the instructions and reasonable requests of other contractors performing work for the Owner under separate contract, in the overall coordinating of the Work, the

Owner's Representative may take such appropriate action and issue such instructions as in his judgement may be required to avoid unnecessary and unwarranted delay.

## **ARTICLE 7 CHANGES IN THE WORK**

### **7.1 CHANGE ORDERS**

**7.1.1** A Change Order is a written instrument prepared by the Owner and signed by the Owner and the Contractor formalizing their agreement on the following:

- .1** a change in the Work
- .2** the amount of an adjustment, if any, in the Contract amount
- .3** an adjustment, if any, in the Contract Time

**7.1.2** The Owner may at any time, order additions, deletions, or revisions in the Work by a Change Order or a Construction Change Directive. Such Change Order or Construction Change Directive shall not invalidate the Contract and requires no notice to the surety. Upon receipt of any such document, or written authorization from the Owner's Representative directing the Contractor to proceed pending receipt of the document, the Contractor shall promptly proceed with the Work involved in accordance with the terms set forth therein.

**7.1.3** Until such time as the Change Order is formalized and signed by both the Owner and the Contractor it shall be considered a Change Order Request.

**7.1.4** The amount of adjustment in the Contract price for authorized Change Orders will be agreed upon before such Change Orders becomes effective and will be determined as follows:

- .1** By a lump sum proposal from the Contractor and the Subcontractors of any tier, including overhead and profit.
- .2** By a time and material basis with or without a specified maximum. The Contractor shall submit to the Owner's Representative itemized time and material sheets depicting labor, materials, equipment utilized in completing the Work on a daily basis for the Owner's Representative approval. If this pricing option is utilized, the Contractor may be required to submit weekly reports summarizing costs to date on time and material Change Order Requests not yet finalized.
- .3** By unit prices contained in the Contractor's original bid and incorporated in the Construction Contract or subsequently agreed upon. Such unit prices contained in the Contractor's original proposal are understood to include the Contractor's overhead and profit. If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order that application of such unit prices to quantities of the Work proposed will cause substantial inequity to the Owner or to the

Contractor, the applicable unit prices shall be equitably adjusted.

**7.1.5** The Contractor shall submit all fully documented Change Order Requests with corresponding back-up documentation within the time requested by the Owner but no later than fourteen (14) working days following 1.) the Owner's request for pricing in the case of a lump sum; or 2.) the completion of unit price or time and material work.

**7.1.6** The Contractor shall submit Change Order Requests in sufficient detail to allow evaluation by the Owner. Such requests shall be fully itemized by units of labor, material and equipment and overhead and profit. Such breakdowns shall be itemized as follows:

- .1** Labor: The Contractor's proposal shall include breakdowns by labor, by trade, indicating number of hours and cost per hour for each Subcontractor as applicable. Such breakdowns shall only include employees in the direct employ of the Contractor or Subcontractors in the performance of the Work. Such employees shall only include laborers at the site, mechanics, craftsmen and foremen. Payroll cost shall include base rate salaries and wages plus the cost of fringe benefits required by agreement or custom and social security contributions, unemployment, payroll taxes and workers' or workmen's compensation insurance and other customary and legally required taxes paid by the Contractor or Subcontractors. Any item or expense outside of these categories is not allowed. The expense of performing Work after regular working hours, on Saturdays, Sundays or legal holidays shall not be included in the above, unless approved in writing and in advance by Owner.
- .2** Material, supplies, consumables and equipment to be incorporated into the Work at actual invoice cost to the Contractor or Subcontractors; breakdowns showing all material, installed equipment and consumables fully itemized with number of units installed and cost per unit extended. Any singular item or items in aggregate greater than one thousand dollars (\$1,000) in cost shall be supported with supplier invoices at the request of the Owner's Representative. Normal hand tools are not compensable.
- .3** Equipment: Breakdown for required equipment shall itemize (at a minimum) delivery / pick-up charge, hourly rate and hours used. Operator hours and rate shall not be included in the equipment breakdown. Contractor must use the most cost-effective equipment available in the area and should not exceed the rates listed in the Rental Rate Blue Book for Construction Equipment (Blue Book). The Contractor shall submit documentation for the Blue Book to support the rate being requested.

### **7.2 Construction Change Directive**

**7.2.1** A construction change directive is a written order prepared and signed by the Owner, issued with supporting documents prepared by the Architect (if applicable), directing a change in the Work prior to agreement on adjustment of the Contract amount or Contract Time, or both. A Construction

Change Directive shall be used in the absence of complete agreement between the Owner and Contractor on the terms of a Change Order. If the Construction Change Directive allows an adjustment of the Contract amount or time, such adjustment amount shall be based on one of the following methods:

- .1 A lump sum agreement, properly itemized and supported by substantiating documents of sufficient detail to allow evaluation.
- .2 By unit prices contained in the Contractor's original proposal and incorporated in the Construction Contract or subsequently agreed upon.
- .3 A method agreed to by both the Owner and the Contractor with a mutually agreeable fee for overhead and profit.
- .4 In the absence of an agreement between the Owner and the Contractor on the method of establishing an adjustment of the Contract amount, the Owner, with the assistance of the Architect, shall determine the adjustment amount on the basis of expenditures by the Contractor for labor, materials, equipment, and other costs consistent with other provisions of the Contract. The Contractor shall keep and submit to the Owner an itemized accounting of all cost components, either expended or saved, while performing the Work covered under the Construction Change Directive.

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

**7.2.3** A Construction Change Directive signed by Contractor indicates the agreement of the Contractor therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

### **7.3 Overhead and Profit**

**7.3.1** Overhead and Profit on Change Orders shall be applied as follows:

- .1 The overhead and profit charged by the Contractor and Subcontractors shall be considered to include, but not limited to, job site office and clerical expense, normal hand tools, incidental job supervision, field supervision, payroll costs and other compensation for project manager, officers, executives, principals, general managers, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, time-keepers, and other personnel employed whether at the site or in principal or a branch office for general superintendent and administration of the Work.
- .2 The percentages for overhead and profit charged on Change Orders shall be negotiated and may vary according to the nature, extent, and complexity of the

Work involved but in no case shall exceed the following:

- |     |   |
|-----|---|
| 15% | To the Contractor or the Subcontractor of any tier for Work performed with their respective forces or materials purchased |
| 5%  | To the Contractor on Work performed by other than the Contractor's forces   |
| 5%  | To first tier Subcontractor on Work performed by his Subcontractor  |

- .3 , extent, and complexity of The Contractor will be allowed to add 2% for the cost of bonding and insurance to their cost of work. This 2% shall be allowed on the total cost of the added work, including overhead and profit.
- .4 Not more than three mark-ups, not to exceed individual maximums shown above, shall be allowed regardless of the number of tier Subcontractors. Overhead and profit shall be shown separately for each Subcontractor of any tier and the Contractor.
- .5 On proposals covering both increases and decreases in the amount of the Contract, the application of overhead and profit shall be on the net change in direct cost for the Contractor or Subcontractor of any tier performing the Work.
- .6 The percentages for overhead and profit credit to the Owner on Change Orders that are strictly decreases in the quantity of work or materials shall be negotiated and may vary according to the nature the Work involved, but shall not be less than the following:

#### **Overhead and Profit**

- |      |   |
|------|---|
| 7.5% | Credit to the Owner from the Contractor or Subcontractor of any tier for Work performed with their respective forces or materials purchased |
| 2.5% | Credit to the Owner from the Contractor on Work performed by other than his forces  |
| 2.5% | Credit to the Owner from the first tier Subcontractor on Work performed by his Subcontractor of any tier                                    |

### **7.4 Extended General Conditions**

**7.4.1** The Contractor acknowledges that the percentage mark-up allowed on Change Orders for overhead and profit cover the Contractor's cost of administering and executing the Work, inclusive of Change Orders that increase the Contract Time. The Contractor further acknowledges that no compensation beyond the specified mark-up percentages for extended overhead shall be due or payable as a result of an increase in the Contract Time.

**7.4.2** The Owner may reimburse the Contractor for extended overhead if an extension of the Contract Time is granted by the Owner, in accordance with 4.7.1 and the Owner determines that the extension of the Contract Time creates an inequitable condition for the Contractor. If these conditions are determined by the Owner to exist, the Contractor may be reimbursed by unit prices contained in the Contractor's original bid and incorporated in the Construction Contract or by unit prices subsequently agreed upon.

**7.4.3** If unit prices are subsequently agreed upon, the Contractor's compensation shall be limited as follows:

- .1** For the portion of the direct payroll cost of the Contractor's project manager expended in completing the Work and the direct payroll cost of other onsite administrative staff not included in Article 7.3.1. Direct payroll cost shall include base rate salaries and wages plus the cost of fringe benefits required by agreement or custom and social security contributions, unemployment, payroll taxes and workers' or workmen's compensation insurance and other customary and legally required taxes paid by the Contractor;
- .2** Cost of the Contractor's temporary office, including temporary office utilities expense;
- .3** Cost of temporary utilities required in the performance of the Work;
- .4** Profit not to exceed 5% of the total extended overhead direct costs;

**7.4.4** All costs not falling into one of these categories and costs of the Contractor's staff not employed onsite are not allowed.

## **7.5 Emergency Work**

**7.5.1** If, during the course of the Work, the Owner has need to engage the Contractor in emergency work, whether related to the Work or not, the Contractor shall immediately proceed with the emergency work as directed by the Owner under the applicable provisions of the Contract. In so doing, the Contractor agrees that all provisions of the Contract remain in full force and effect and the schedule for the Work is not impacted in any way unless explicitly agreed to in writing by the Owner.

## **ARTICLE 8 TIME**

### **8.1 Progress and Completion**

**8.1.1** The Contractor acknowledges and agrees that time is of the essence of this Contract.

**8.1.2** The Contract Time is the period of time set forth in the Contract for Construction required for Substantial Completion and Final Completion of the entire Work or portions of the Work as defined in the Contract Documents. Time limits stated in the Contract Documents are of the essence of the Contract. The Contract Time may only be changed by a Change Order. By executing the Contract, the Contractor confirms that the Contract Time is a sufficient period for performing the Work in its entirety.

**8.1.3** The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance and bonds required by Article 11 to be furnished by the Contractor.

**8.1.4** The Contractor shall proceed expeditiously and diligently with adequate forces and shall achieve Substantial Completion and Final Completion within the time specified in the Contract Documents.

### **8.2 Delay in Completion**

**8.2.1** The Contractor shall be liable for all of the Owner's damages for delay in achieving Substantial Completion and/or Final Completion of the entire Work or portions of Work as set forth in the Contract Documents within the Contract Time unless liquidated damages are specifically provided for in the Contract Documents. If liquidated damages are specifically provided for in the Contract for Construction, the Contractor shall be liable for such liquidated damages as set forth in Section 8.3

**8.2.2** All time limits stated in the Contract are of the essence of the Contract. However, if the Contractor is delayed at any time in the progress of the Work by any act or neglect of the Owner or by the Owner's Representative, by changes ordered in the Work, Force Majeure including but not limited to war, armed conflict, riot, civil commotion or disorder, act of terrorism or sabotage; epidemic, pandemic, outbreaks of infectious disease or any other public health crisis, including quarantine or other employee restrictions, compliance with any law or governmental order, rule, regulation or direction, curfew restriction, act of God or natural disaster such as earthquake, volcanic activity, landslide, tidal wave, tsunami, flood, damage or destruction by lightning, drought; explosion, fire, destruction of machines, equipment, prolonged break-down of transport, telecommunication or electric current; general labor disturbance such as but not limited to boycott, strike and lock-out, occupation of factories and premises, or any other causes beyond the Contractor's reasonable control which the Owner's Representative determines may justify delay then, upon submission of the Time Impact Schedule Analysis (TIA) justifying the delay called out in Section 4.7 of these General Conditions, the Contract Time may be extended for a reasonable time to the extent such delay will prevent the Contractor from achieving Substantial Completion and/or Final Completion within the Contract Time and if performance of the Work is not, was not or would not have been delayed by any other cause for which the Contractor is not entitled to an extension of the Contract Time under the Contract Documents. It shall be a condition precedent to any adjustment of the Contract Time that the Contractor provides the Owner's Representative with written notice of the cause of delay within seven (7) days from the occurrence of the event or condition which caused the claimed delay. If a Force Majeure is approved by the Owner as the basis for a delay claim, an adjustment in the Contract Time to the extent the Force Majeure impacts the schedule is the only remedy. No increase in the Contract Sum for any reason shall be allowed due to a Force Majeure.

**8.2.3** The Contractor further acknowledges and agrees that adjustments in the Contract Time will be permitted for a delay only to the extent such delay (1) is not caused, or could not have been anticipated, by the Contractor, (2) could not be limited or

avoided by the Contractor's timely notice to the Owner of the delay, (3) prevents the Contractor from completing its Work by the Contract Time, and (4) is of a duration not less than one (1) day. Delays attributable to and within the control of a Subcontractor or supplier shall not justify an extension of the Contract Time.

**8.2.4** Notwithstanding anything to the contrary in the Contract Documents, except as otherwise noted in these General Conditions, an extension in the Contract Time, to the extent permitted under this Article, shall be the sole remedy of the Contractor for any (1) delay in the commencement, prosecution or completion of the Work, (2) hindrance or obstruction in the performance of the Work, (3) loss of productivity, or (4) other claims due to or caused by any events beyond the control of both the Owner and the Contractor defined herein as Force Majeure. In no event shall the Contractor be entitled to any compensation or recovery of any damages or any portion of damages resulting from delays caused by or within the control of the Contractor or by acts or omissions of the Contractor or its Subcontractors of any tier or delays beyond the control of both the Owner and the Contractor. If the Contractor contends that delay, hindrance, obstruction or other adverse condition results from acts or omissions of the Owner, the Owner's Representative or the Architect, the Contractor shall provide written notice to the Owner within seven (7) calendar days of the event giving rise to such claim. The Contractor shall only be entitled to an adjustment in the Contract Sum to the extent that such acts or omissions continue after the Contractor's written notice to the Owner of such acts or omissions, but in no case shall Force Majeure be the basis of an increase in the Contract Sum. The Owner's exercise of any of its rights or remedies under the Contract Documents (including, without limitation, ordering changes in the Work, or directing suspension, rescheduling or correction of the Work) regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be the basis of any Claim for an increase in the Contract Sum or Contract Time. In the event Contractor is entitled to an adjustment in the Contract Sum for any delay, hindrance, obstruction or other adverse condition caused by the acts or omissions of the Owner, the Owner's Representative or the Architect, the Contractor shall only be entitled to its actual direct costs caused thereby and the Contractor shall not be entitled to and waives any right to special, indirect, or consequential damages including loss of profits, loss of savings or revenues, loss of anticipated profits, labor inefficiencies, idle equipment, home office overhead, and similar type of damages.

**8.2.5** If the Contractor submits a progress report or any construction schedule indicating, or otherwise expressing an intention to achieve completion of the Work prior to any completion date required by the Contract Documents or expiration of the Contract Time, no liability of the Owner to the Contractor for any failure of the Contractor to so complete the Work shall be created or implied. Further, the Contractor acknowledges and agrees that even if the Contractor intends or is able to complete the Work prior to

the Contract Time, it shall assert no Claim and the Owner shall not be liable to the Contractor for any failure of the Contractor, regardless of the cause of the failure, to complete the Work prior to the Contract Time.

### **8.3 Liquidated Damages**

**8.3.1** If Liquidated Damages are prescribed on the Bid Form and Special Conditions in the Contract Documents, the Owner may deduct from the Contract Sum and retain as Liquidated Damages, and not as penalty or forfeiture, the sum stipulated in the Contract Documents for each calendar day after the date specified for completion of the Work that the entire Work is not substantially complete and/or finally complete.

**8.3.2** The Owner's Representative shall establish the date of Substantial Completion and the date of Final Completion of the Work which shall be conclusive and binding on the Owner and the Contractor for the purpose of determining whether or not Liquidated Damages shall be assessed under terms hereof and the sum total amount due.

**8.3.3** Liquidated Damages or any matter related thereto shall not relieve the Contractor or the Contractor's surety of any responsibility or obligation under this Contract.

## **ARTICLE 9 PAYMENTS AND COMPLETION**

### **9.1 Commencement, Prosecution, and Completion**

**9.1.1** The Contractor shall commence Work within five (5) days upon the date of a "Notice to Proceed" from the Owner or the date fixed in the Notice to Proceed. The Contractor shall prosecute the Work with faithfulness and diligence, and the Contractor shall complete the Work within the Contract Time set forth in the Contract Documents.

**9.1.2** The Owner will prepare and forward three (3) copies of the Contract and Performance Bond to the bidder to whom the Contract for the Work is awarded and such bidder shall return two (2) properly executed prescribed copies of the Contract and Bond to the Owner.

**9.1.3** The construction period, when specified in consecutive calendar days, shall begin when the Contractor receives notice requesting the instruments listed in below. Before the Owner will issue Notice to Proceed to permit the Contractor to begin Work, the Owner shall have received the following instruments, properly executed as described in the Contract Documents. The documents below shall have been received by the Owner within fifteen (15) days after receipt of request for documents:

- .1** Contract
- .2** Bond (See Article 11)
- .3** Insurance (See Article 11)
- .4** List of Subcontractors of any tier

**9.1.4** In the event the Contractor fails to provide the Owner such documents, the Contractor may not enter upon the site of the Work until such documents are provided. The date the



Contractor is required to commence and complete the Work shall not be affected by the Owner denying the Contractor access to the site as a result of the Contractor's failure to provide such documents and the Contractor shall not be entitled to an adjustment of the Contract Time or Contract Sum as a result of its failure to provide the Owner the required documents

**9.1.5** Contracts executed by partnerships shall be signed by all general partners of the partnership. Contracts signed by corporations shall be signed by the President or Vice President and the Secretary or Assistant Secretary. In case the Assistant Secretary or Vice President signs, it shall be so indicated by writing the word "Asst." or "Vice" in front of the words "Secretary" and "President". The corporate seal of the corporation shall be affixed. For all other types of entities, the Contractor and the person signing the Contract on behalf of the Contractor represent and warrant that the person signing the Contract has the legal authority to bind the Contractor to the Contract.

**9.1.6** Any successful bidder which is a corporation organized in a state other than Missouri or any bidder doing business in the State of Missouri under a fictitious name shall furnish, at no cost to the Owner, no later than the time at which the executed Contract for Construction, the Payment Bond, and the Performance Bond are returned, a properly certified copy of its current Certificate of Authority and License to do business in the State of Missouri. No contract will be executed by the Owner until such certificate is furnished by the bidder, unless there already is on file with the Owner a current certificate, in which event, no additional certificate will be required during the period of time for which such current certificate remains in effect.

**9.1.7** Within fifteen (15) calendar days of the issuance of a Notice to Proceed, the Contractor shall submit one (1) signed copy of the following instruments. No payment will be processed until all of these instruments are received and approved by the Owner's Representative.

- .1** Reproducible progress and payment schedule
- .2** Contractor's Schedule of Values
- .3** List of material suppliers
- .4** Itemized breakdown of all labor rates for each classification. Overhead and profit shall not be included. Payroll cost shall include base rate salaries and wages plus the cost of fringe benefits required by agreement or custom and social security contributions, unemployment, payroll taxes and workers' or workmen's compensation insurance and other customary and legally required taxes paid by the Contractor or Subcontractors. Any item or expense outside of these categories is not allowed. The expense of performing Work after regular working hours, on Saturdays, Sundays or legal holidays shall not be included in the above, unless approved in writing and in advance by the Owner.
- .5** Itemized breakdown of anticipated equipment rates (breakout operator rate). Overhead and profit shall

not be included. Breakdown for required equipment shall itemize (at a minimum) delivery/ pick-up charge, hourly rate and hours used. Operator hours and rate shall not be included in the equipment breakdown. The Contractor must use the most cost-effective equipment available in the area and should not exceed the rates listed in the Rental Rate Blue Book for Construction Equipment (Blue Book). The Contractor shall submit documentation for the Blue Book to support the rate being requested.

**9.1.8** The Contractor shall be paid electronically using the Owner's web-based payment program with a direct electronic transfer from the Owner's account into the Contractor's account. The Contractor must submit the following information to the Owner's Representative:

- .1** Bank Transit Number for the Contractor's bank into which the electronic deposit will be made.
- .2** Bank Account Number for the Contractor's account into which the electronic deposit will be made.
- .3** Contractor's E-Mail address so that formal notification of the deposit by the Owner can be provided.

## **9.2 Contract Sum**

**9.2.1** The Owner shall compensate the Contractor for all Work described herein, and in the Contract Documents the Contract Sum set forth in the Contract for Construction, subject to additions and deletions as provided hereunder.

## **9.3 Schedule of Values**

**9.3.1** Within fifteen (15) days after receipt of the Notice to Proceed, the Contractor shall submit to the Owner's Representative a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Owner's Representative may require. This schedule, unless objected to by the Owner's Representative, shall be used as a basis for reviewing the Contractor's Applications for Payment. The values set forth in such schedule may, at the Owner's option be used in any manner as fixing a basis for additions to or deletions from the Contract Sum.

**9.3.2** The progress and payment schedule of values shall show the following:

- .1** Enough detail as necessary to adequately evaluate the actual percent complete of any line item on a monthly basis, as determined by the Owner's Representative.
- .2** Line items, when being performed by a Subcontractor or material supplier, shall correlate directly back to the subcontract or purchase order amount if requested by the Owner's Representative.

## **9.4 Applications for Payment**

**9.4.1** The Contractor shall submit monthly to the Owner's Representative and the Architect an itemized Application for Payment for operations completed in accordance with the Schedule of Values. Such application shall be supported by such data substantiating the Contractor's right to payment as the Owner's Representative or the Architect may require, such as

copies of requisitions from Subcontractors and material suppliers, and reflecting retainage as provided for herein.

**9.4.2** Such applications shall not include requests for payment of amounts the Contractor does not intend to pay to a Subcontractor or material supplier

**9.4.3** Progress payments shall be made on account of materials and equipment delivered to the site and incorporated in the Work. No payments will be made for materials and equipment stored at the Project site but not yet incorporated into the Work except as provided in Paragraph 9.4.4.

**9.4.4** If approved in writing and in advance by the Owner, progress payments may be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. The Owner may in its sole discretion refuse to grant approval for payments for materials and equipment stored at the Project site but not yet incorporated in the Work. Any approval by the Owner for payment for materials and equipment delivered and suitably stored at the site, or stored offsite as noted below, for subsequent incorporation in the Work shall be conditioned upon Contractor's demonstrating that such materials and equipment are adequately protected from weather, damage, vandalism and theft and that such materials and equipment have been inventoried and stored in accordance with procedures established by or approved by the Owner. Nothing in this clause shall imply or create any liability on the part of the Owner for the Contractor's inventory and storage procedures or for any loss or damage to material, equipment or supplies stored on the site, whether incorporated into the Work or not. In the event any such loss or damage occurs, the Contractor remains solely responsible for all costs associated with replacement of the affected materials, supplies and equipment including labor and incidental costs, and shall have no claim against the Owner for such loss.

No allowance shall be made in the project pay requests for materials not delivered to the site of the Work and incorporated into the Work, except as noted below. For the purposes of this Contract, offsite is defined as any location not owned or leased by the Owner. The Contractor shall submit a list of materials that they are requesting payment for offsite storage within sixty (60) days of Notice to Proceed.

- .1** Items considered to be major items of considerable magnitude, if suitably stored, may be allowed in project pay requests on the basis of ninety percent (90%) of invoices
- .2** Determination of acceptable "major items of considerable magnitude" and "suitably stored" shall be made by the Owner's Representative.
- .3** Aggregate quantities of materials not considered unique to this project will not be considered for offsite storage payment.
- .4** The Contractor shall submit to the Owner's Representative a list of the material for which

application for payment for offsite storage is anticipated no less than forty-five days (45) prior to the submission of the applicable pay request. The list shall include a material description, applicable division, quantity, and discounts offered to the Owner for early payment. The Contractor shall also submit the location the material will be stored and the method of protection

- .5** The storage facility shall be subject to approval by the Owner's representative, shall be located within an acceptable distance of the project sites as established by the Owner's Representative and all materials for the Owner's project must be stored separately from all other items within the storage facility and shall be labeled and stored in the name of "The Curators of the University of Missouri."
- .6** The Owner's Representative shall be provided a minimum of two weeks' notice to visit the storage facility and inspect the stored material prior to submission of the pay request.
- .7** Upon favorable inspection by the Owner's Representative, the Contractor shall, at the Owner's option, submit a Bill of Sale on forms provided by the Owner's Representative, transferring title of the material or equipment to "The Curators of the University of Missouri."
- .8** An invoice provided by the supplier shall be included with the applicable pay request.
- .9** The Contractor shall remain fully responsible for all items, until acceptance of the project by the Owner.
- .10** The Contractor shall reimburse all costs incurred by the Owner in inspecting and verifying all material stored offsite, including mileage, airfare, meals, lodging and time, charged at a reasonable hourly rate.
- .11** The Contractor shall furnish and maintain insurance covering the replacement cost of the material stored offsite against all losses and shall furnish proof of coverage with the application for payment for material stored offsite.
- .12** The Contractor is responsible for all costs related to storage and handling of material stored offsite unless otherwise directed by the Owner's Representative.

**9.4.5** The Application for Payment shall constitute a representation by the Contractor to the Owner that the Work has progressed to the point indicated; the quality of the Work covered by the Application for Payment is in accordance with the Contract Documents; and the Contractor is entitled to payment in the amount requested.

**9.4.6** The Contractor will be reimbursed for ninety-five percent (95%) of the value of all labor furnished and material installed and computed in the same manner, less all previous payments made. On projects where a bond is not required, the Contractor will be reimbursed for ninety percent (90%) of the value of all labor furnished and material installed and computed in the same manner, less all previous payments made. The Owner shall hold the remaining five (5) or ten (10) percent, as applicable, as retainage until Substantial Completion of the work as set forth in 9.9.3 below.

## **9.5 Approval for Payment**

**9.5.1** The Owner's Representative will, within fifteen (15) days after receipt of the Contractor's Application for Payment, either approve Contractor's Application for Payment for such amount as the Owner's Representative determines is properly due or notify the Contractor of the Owner's Representative's reasons for withholding certification in whole or in part as provided in Section 9.6.

## **9.6 Decisions to Withhold Approval**

**9.6.1** The Owner's Representative may decide not to certify payment and may withhold approval in whole or in part, to the extent reasonably necessary to protect the Owner. If the Owner's Representative is unable to approve payment in the amount of the Application, the Owner's Representative will notify the Contractor as provided in Paragraph 9.5.1. If the Contractor and Owner's Representative cannot agree on a revised amount, the Owner's Representative will promptly issue approval for payment for the amount for which the Owner's Representative is able to determine is due to the Contractor. The Owner's Representative may also decide not to approve payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of approval for payment previously issued, to such extent as may be necessary in the Owner's Representative opinion to protect the Owner from loss because of:

- .1** defective or non-compliant Work not remedied, or damage to completed Work;
- .2** failure to supply sufficient skilled workers or suitable materials;
- .3** third party claims filed or reasonable evidence indicating probable filing of such claims;
- .4** failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment, the Owner may, at its sole option issue joint checks to Subcontractors who have presented evidence that it has not been paid in accordance with the Contract;
- .5** reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .6** damage to the Owner or another contractor;
- .7** reasonable evidence that the Work will not be completed within the Contract Time or an unsatisfactory rate of progress made by the Contractor;
- .8** The Contractor's failure to comply with applicable laws;
- .9** The Contractor's or Subcontractor's failure to comply with applicable wage requirements; or
- .10** The Contractor's failure to carry out the Work in strict accordance with the Contract Documents.

**9.6.2** When the above reasons for withholding approval are removed, approval will be made for amounts previously withheld.

## **9.7 Progress Payments**

**9.7.1** Based upon Applications for Payment submitted to the Owner by the Contractor and approvals issued by the Owner's Representative, the Owner shall make progress payments on account of the Contract Sum to the Contractor

as provided below and elsewhere in the Contract Documents.

**9.7.2** The period covered by each Application for Payment shall be one (1) calendar month.

**9.7.3** The Owner shall make payment to the Contractor for amounts due and approved by the Owner's Representative not later than thirty (30) days after the Owner approves a properly detailed Application for Payment which is in compliance with the Contract Documents. The Owner shall not have the obligation to process or pay such Application for Payment until it receives an Application for Payment satisfying such requirements.

**9.7.4** Based on the Schedule of Values submitted by the Contractor, Applications for Payment submitted by the Contractor shall indicate the actual percentage of completion of each portion of the Contractor's Work as of the end of the period covered by the Application for Payment.

**9.7.5** Within fifteen (15) days following receipt payment from the Owner, the Contractor shall pay each Subcontractor and supplier out of the amount paid to the Contractor on account of such Subcontractor's or supplier's portion of the Work, the amount to which said Subcontractor or supplier is entitled, reflecting percentages actually retained from payments to the Contractor on account of each Subcontractor's or supplier's portion of the Work, in full compliance with state statute. The Contractor shall, by appropriate agreement with each Subcontractor or supplier, require each Subcontractor or supplier to make payments to Sub-subcontractors in similar manner. If the Owner, the architect or engineer of record, and the Contractor all determine that a particular Subcontractor's portion of the Work has been satisfactorily completed, including corrective work and closeout requirements, payment equal to one hundred percent (100%) of the subcontract amount for that Subcontractor can be made to the Contractor prior to Substantial Completion. The Contractor shall request such adjustment as necessary to enable the Contractor to pay the Subcontractor in full. This does not relieve the Contractor of any responsibilities under the terms of the Contract and any deficiencies subsequently discovered shall be corrected at no cost to the Owner.

**9.7.6** Neither the Owner nor the Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor of any tier nor a laborer or employee of the Contractor except to the extent required by law. Retainage provided for by the Contract Documents are to be retained and held for the sole protection of the Owner, and no other person, firm or corporation shall have any claim or right whatsoever thereto.

**9.7.7** An approval for payment by the Owner's Representative, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

## **9.8 Failure of Payment**

**9.8.1** If the Owner is entitled to reimbursement or payment from the Contractor under or pursuant to the Contract Documents, such payment by the Contractor shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective Work, the Owner shall have an absolute right to offset such amount against the Contract Sum and may, in the Owner's sole discretion, elect either to: (1) deduct an amount equal to that to which the Owner is entitled from any payment then or thereafter due the Contractor from the Owner, or (2) issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that to which the Owner is entitled.

## **9.9 Substantial Completion**

**9.9.1** Substantial Completion is the stage in the progress of the Work as defined in Paragraph 1.1.14 as certified by the Owner.

**9.9.2** When the Contractor considers the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify the Owner and the Architect. The Owner's Representative will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Owner's Representative's inspection discloses any item which is not in accordance with the requirements of the Contract Documents, the Contractor shall complete or correct such item upon notification by the Owner's Representative. If the Owner's Representative determines the work is not substantially completed and accepted, then the Owner or the Owner's Representative shall provide a written explanation of why the work is not considered substantially completed and accepted within fourteen calendar days to the Contractor, who shall then provide such notice to the subcontractor or suppliers responsible for such work. The Contractor shall then submit a request for another inspection by the Owner's Representative to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, the Owner will issue a Certificate of Substantial Completion. Substantial Completion shall transfer from the Contractor to the Owner responsibilities for security, maintenance, heat, utilities, damage to the Work and insurance. In no event shall the Contractor have more than thirty (30) days to complete all items on the Punch List and achieve Final Completion. Warranties required by the Contract Documents shall commence on the date of Substantial Completion or as agreed otherwise.

**9.9.3** At the date of Substantial Completion, the Contractor may apply for, and if approved by Owner's Representative, the Owner, subject to the provisions herein, shall release the retainage, increasing the total payments to one hundred percent (100%) of the Contract Sum less one hundred fifty percent (150%) of the value of any incomplete

Work and unsettled claims, as determined by the Owner's Representative.

## **9.10 Partial Occupancy or Use**

**9.10.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and the Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, security, maintenance, heat, utilities, damage to the Work and insurance. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by the Owner's Representative.

**9.10.2** Immediately before such partial occupancy or use, the Owner, and the Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

## **9.11 Final Completion and Final Payment**

**9.11.1** Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner's Representative and the Architect will promptly make such inspection and, when the Owner's Representative and the Architect find the Work acceptable under the Contract Documents and the Contract fully performed, the Owner's Representative will promptly issue a final approval for payment; otherwise, the Owner's Representative will return the Contractor's Final Application for Payment to the Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application. Submission of a Final Application for Payment shall constitute a further representation that conditions listed in Paragraph 9.11.2 as precedent to the Contractor being entitled to final payment have been fulfilled. All warranties and guarantees required under or pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Owner's Representative as part of the final Application for Payment. The final approval for payment will not be issued by the Owner's Representative until all warranties and guarantees have been received and accepted by the Owner.

**9.11.2** The Owner will request the Contractor to submit the application for final payment along with a manually signed notarized letter on the Contractor's letterhead certifying that:

- .1** Labor costs, prevailing wage rates, fringe benefits and material costs have been paid.
- .2** Subcontractors of any tier and manufacturers furnishing materials and labor for the project have fully completed their Work and have been paid in full.
- .3** The project has been fully completed in accordance with the Contract Documents as modified by Change Orders.
- .4** The acceptance by the Contractor of its final payment, by check or electronic transfer, shall be and operate as a

release of all claims of the Contractor against the Owner for all things done or furnished or relating to the Work and for every act or alleged neglect of the Owner arising out of the Work.

**9.11.3** Final payment constituting the entire unpaid balance due shall be paid by the Owner to the Contractor within thirty (30) days after the Owner's receipt of Contractor's Final Application for Payment which satisfies all the requirements of the Contract Documents and the Owner's receipt of all information and documents set forth in Section 9.11.

**9.11.4** No payment under this Contract, including but not limited to final payment, shall constitute acceptance by the Owner of any Work or act not in accordance with the requirements of the Contract Documents.

**9.11.5** No recourse shall be had against any member of the Board of Curators, or officer thereof, for any payment under the Contract or any claim based thereon.

## **ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY**

### **10.1 Safety Precautions and Programs**

**10.1.1** The Contractor shall at all times conduct operations under this Contract in a manner to avoid the risk of bodily harm to persons or risk of damage to any property. The Contractor shall promptly take precautions which are necessary and adequate against conditions created during the progress of the Contractor's activities hereunder which involve a risk of bodily harm to persons or a risk of damage to property. The Contractor shall continuously inspect Work, materials, and equipment to discover and determine any such conditions and shall be solely responsible for discovery, determination, and correction of any such conditions. The Contractor shall comply with applicable safety laws, standards, codes, and regulations in the jurisdiction where the Work is being performed, specifically, but without limiting the generality of the foregoing, with rules, regulations, and standards adopted pursuant to the Williams-Steiger Occupational Safety and Health Act of 1970 and applicable amendments.

**10.1.2** The Contractor and all Subcontractors to the Contract must require all on-site employees to complete the ten-hour construction safety training program required under Section 292.675, RSMo, unless they have previously completed the program and have documentation of having done so. The Contractor will forfeit a penalty to the Owner of \$2,500 plus an additional \$100 for each employee employed by the Contractor or Subcontractor, for each calendar day, or portion thereof, such employee is employed without the required training." (Section 292.675, RSMo).

**10.1.3** In the event the Contractor encounters on the site, material reasonably believed to be asbestos,

polychlorinated biphenyl (PCB), lead, mercury, or other material known to be hazardous, which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner's Representative and the Architect in writing. The Work in the affected area shall not thereafter be resumed except by written agreement of the Owner's Representative and the Contractor if in fact the material is asbestos or polychlorinated biphenyl (PCB) and has not been rendered harmless. The Work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB), or when it has been rendered harmless by written agreement of the Owner's Representative and the Contractor. "Rendered Harmless" shall mean that levels of such materials are less than any applicable exposure standards, including but limited to OSHA regulations.

### **10.2 Safety Of Persons and Property**

**10.2.1** The Contractor shall take reasonable precautions for safety of, and shall provide protection to prevent damage, injury, or loss to:

- .1** students, faculty, staff, the public, construction personnel, and other persons who may be affected thereby;
- .2** the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor or the Contractor's Subcontractors of any tier; and
- .3** other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

**10.2.2** The Contractor shall give notices and comply with applicable laws, standards, codes, ordinances, rules, regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury, or loss.

**10.2.3** The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, safeguards for safety and protection, including, but not limited to, posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent sites and utilities.

**10.2.4** When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise the highest degree of care and carry on such activities under supervision of properly qualified personnel.

**10.2.5** The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property caused in whole or in part by the Contractor, a Subcontractor of any tier, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable, and for which the Contractor is responsible under Article 10, except damage or loss attributable solely to acts or omissions of the Owner or the Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either

of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's other obligations stated elsewhere in the Contract.

**10.2.6** The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents, and the maintaining, enforcing and supervising of safety precautions and programs. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner's Representative and the Architect. The Contractor shall hold regularly scheduled safety meetings to instruct the Contractor's personnel on safety practices, accident avoidance and prevention, and the Project Safety Program. The Contractor shall furnish safety equipment and enforce the use of such equipment by its employees and its Subcontractors of any tier.

**10.2.7** The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.

**10.2.8** The Contractor shall promptly report in writing to the Owner all accidents arising out of or in connection with the Work which cause death, lost time injury, personal injury, or property damage, giving full details and statements of any witnesses. In addition, if death, serious personal injuries, or serious property damages are caused, the accident shall be reported immediately.

**10.2.9** The Contractor shall promptly notify in writing to the Owner of any claims for injury or damage to personal property related to the Work, either by or against the Contractor.

## **ARTICLE 11 INSURANCE AND BONDS**

### **11.1 Insurance**

**11.1.1** The Contractor shall secure from the date of the Contract for Construction and maintain for such periods of time as set forth below, insurance of such types and in such amounts specified below, to protect the Contractor, the Owner and others against all hazards or risks of loss described below. The form of such insurance together with carriers thereof, in each case, shall be approved by the Owner, but, regardless of such approval, it shall be the responsibility of the Contractor to maintain the insurance coverages set forth herein.

**11.1.2** The Contractor shall not be allowed on the Owner's property without proof of the insurance coverages set forth herein

### **11.2 Commercial General Liability**

**11.2.1** The Contractor shall secure and maintain from the date of the Contract, and for a period of at least ten (10)

years from the date of Final Completion of the entire Work, Commercial General Liability insurance ("CGL") with a combined single limit of not less than \$2,000,000 per occurrence, \$5,000,000 general aggregate, \$5,000,000 products and completed operations aggregate, and \$1,000,000 personal injury and advertising injury. General Aggregate must apply per project. An umbrella policy may be used to satisfy these limits.

**11.2.2** CGL insurance shall be written on a Commercial form CG 00 01 or an equivalent form providing the same coverages and shall cover claims and liability in connection with or resulting from the Contractor's operations and activities under the Contract, for personal injuries, occupational sickness, disease, death or damage to property of others, including loss of use resulting therefrom, arising out of any operations or activities of the Contractor, its agents, or any Subcontractors of any tier or by anyone directly or indirectly employed by either of them.

**11.2.3** CGL insurance shall include premises, operations, independent contractors, products-completed operations, personal injury and advertising injury and liability assumed under an insured contract (including the tort liability of another assumed in a business contract) coverages. In particular, and not by way of any limitation, the CGL insurance shall cover the Contractor's indemnity obligations contained in the Contract Documents.

**11.2.4** There shall be no endorsement or modification of the CGL policy limiting the scope of coverage for liability arising from blasting, explosion, collapse, or underground property damage.

**11.2.5** The Contractor waives all rights against the Owner and its agents, officers, representatives, and employees for recovery of damages to the extent those damages are covered by the CGL policy required hereunder.

### **11.3 Licensed for Use Vehicle Liability**

**11.3.1** The Contractor shall secure and maintain from the date of the Contract for Construction until the date of Final Completion of the entire Work, insurance, to be on comprehensive form, which shall protect the Contractor against any and all claims for all injuries and all damage to property arising from the use of automobiles, trucks and motorized vehicles, in connection with the performance of Work under this Contract, and shall cover the operation on or off the site of the Work of all motor vehicles licensed for highway use whether they are owned, non-owned or hired. Such insurance shall include contractual liability coverage and shall provide coverage on the basis of the date of any accident. The liability limits under such policy shall not be less than \$2,000,000 combined single limit for bodily injury and property damage per accident.

**11.3.2** The Contractor waives all rights against the Owner and its agents, officers, directors, and employees for recovery

of damages to the extent such damages are covered by the automobile liability insurance required hereunder.

#### **11.4 Workers' Compensation Insurance**

**11.4.1** The Contractor shall purchase and maintain workers' compensation insurance and employers' liability insurance which shall protect the Contractor from claims for injury, sickness, disease or death of the Contractor's employees or statutory employees. The insurance policies required hereunder shall include an "all states" or "other states" endorsement. In case any Work is subcontracted, the Contractor shall require any Subcontractor of any tier to provide the insurance coverages required under this Paragraph.

**11.4.2** The Contractor's workers' compensation insurance coverage shall be in compliance with all applicable laws, including the statutes of the State of Missouri. The Contractor's employers' liability coverage limits shall not be less than \$1,000,000 each accident for bodily injury by accident or \$1,000,000 each employee for bodily injury by disease.

#### **11.5 General Insurance Requirements and Professional Liability**

**11.5.1** Any Consultant/Contractor providing professional design services as part of the Contract shall be required to provide and maintain, from the date of this Contract and for a period of ten (10) years after the date of Final Completion, Professional Liability insurance, in a claims made form, to cover any claims, including but not limited to errors, omissions, and negligence, which may arise from the design and related services performed by the Consultant. The minimum limits for such policy shall be \$1,000,000.00 per claim/\$1,000,000.00 aggregate.

**11.5.2** "The officers, employees, and agents of The Curators of the University of Missouri" shall be added as Additional Insured with respect to the CGL, umbrella/excess and Automobile Liability policies required herein. A certificate of insurance evidencing all coverage required is to be provided at least ten (10) days prior to the inception date of the Contract between the Contractor and the University. The Contractor is required to maintain coverages as stated and required to notify the University of a carrier change or cancellation within two (2) business days. The University reserves the right to request a copy of the policy. The University reserves the right to require higher limits on any contract provided notice of such requirement is stated in the request for proposals for such contract. The Contractor shall request that its insurer(s) include the following disclaimer in any insurance policy, rider or endorsement issued pursuant to this Additional Insured requirement: "Neither the requirement for Additional Insured status nor any of the Contractor's action in compliance with such requirement, either direct or indirect, is intended to be and neither shall be construed as a waiver of any sovereign immunity, governmental immunity or any other type of immunity enjoyed by The Curators of the University of Missouri, the Board of

Curators of the University of Missouri, or any of its officers, employees or agents."

The Additional Insured status must be conveyed by using the ISO CG 20 10 (2004) edition or equivalent and the ISO CG 20 37 (2004) edition. The policy shall be endorsed to be primary coverage and any other insurance carried by the Owner shall be excess only and will not contribute with Contractors' insurance. To confirm, the Endorsement should accompany the insurance certificate.

**11.5.3** All insurance coverages procured by the Contractor shall be provided by agencies and insurance companies acceptable to and approved by Owner. All insurance coverage shall be provided by insurance companies that are duly licensed to conduct business in the State of Missouri as an admitted carrier, except that the Professional Liability insurance required herein may be provided by any insurance company legally authorized to do business in the State of Missouri. The form and content of all insurance coverage provided by the Contractor are subject to the approval of the Owner. All required insurance coverages shall be obtained and paid for by the Contractor. Any approval of the form, content or insurance company by the Owner shall not relieve the Contractor from the obligation to provide the coverages required herein. All insurance coverage procured by the Contractor shall be provided by insurance companies having policyholder ratings no lower than "A-" and financial ratings not lower than "XI" in the Best's Insurance Guide, latest edition in effect as of the date of the Contract, and subsequently in effect at the time of renewal of any policies required by the Contract Documents. Insurance coverages required hereunder shall not be subject to a deductible amount on a per-claim basis of more than \$10,000.00 and shall not be subject to a per-occurrence deductible of more than \$25,000.00. Insurance procured by the Contractor covering the Additional Insureds shall be primary insurance and any insurance maintained by Owner shall be excess insurance.

**11.5.4** All insurance required hereunder shall provide that the insurer's cost of providing the insureds a defense and appeal, including attorneys' fees, shall be supplementary and shall not be included as part of the policy limits but shall remain the insurer's separate responsibility. The Contractor shall cause its insurance carriers for all required coverages, except for workers' compensation, to waive all rights of subrogation against the Owner and its officers, employees and agents.

**11.5.5** The Contractor shall furnish the Owner with certificates, Additional Insured endorsements, policies, or binders which indicate the Contractor and/or the Owner and other Contractors (where required) are covered by the required insurance showing type, amount, class of operations covered, effective dates and dates of expiration of policies prior to commencement of the Work. The Contractor is required to maintain coverages as stated and required to notify the University of a carrier change or cancellation within two (2) business days. The University reserves the right to request a copy of the policy. The Contractor fails to provide, procure, and deliver acceptable policies of insurance or satisfactory

certificates or other evidence thereof, the Owner may obtain such insurance at the cost and expense of the Contractor without notice to the Contractor.

**11.5.6** With respect to all insurance coverages required to remain in force and affect after final payment, The Contractor shall provide the Owner additional certificates, policies and binders evidencing continuation of such insurance coverages along with the Contractor's application for final payment and shall provide certificates, policies and binders thereafter as requested by the Owner.

**11.5.7** The maintenance in full current force and effect of such forms and amounts of insurance and bonds required by the Contract Documents shall be a condition precedent to the Contractor's exercise or enforcement of any rights under the Contract Documents.

**11.5.8** Failure of the Owner to demand certificates, policies and binders evidencing insurance coverages required by the Contract Documents, approval by the Owner of such certificates, policies and binders or failure of the Owner to identify a deficiency from evidence that is provided by the Contractor shall not be construed as a waiver of the Contractor's obligations to maintain the insurance required by the Contract Documents.

**11.5.9** The Owner shall have the right to terminate the Contract if the Contractor fails to maintain the insurance required by the Contract Documents.

**11.5.10** If the Contractor fails to maintain the insurance required by the Contract Document, the Owner shall have the right, but not the obligation, to purchase said insurance at Contractor's expense. If the Owner is damaged by the Contractor's failure to maintain the insurance required by the Contract Documents, the Contractor shall bear all reasonable costs properly attributable to such failure.

**11.5.11** By requiring the insurance set forth herein and in the Contract Documents, the Owner does not represent or warrant that coverage and limits will necessarily be adequate to protect the Contractor, and such coverages and limits shall not be deemed as a limitation on the Contractor's liability under the indemnities granted to the Owner in the Contract Documents. For those policies requiring the Owner to be added as an Additional Insured, as set forth herein, the Owner and all other indemnified parties shall be an Additional Insured for the full limits carried by the Contractor, not just the limits required herein.

**11.5.12** If Contractor's liability policies do not contain a standard separation of insureds provision, such policies shall be endorsed to provide cross-liability coverage.

**11.5.13** If a part of the Work hereunder is to be subcontracted, the Contractor shall: (1) cover any and all Subcontractors in its insurance policies; (2) require each Subcontractor to secure insurance which will protect said Subcontractor and supplier against all applicable hazards or

risks of loss designated in accordance with Article 11; and (3) require each Subcontractor or supplier to assist in every manner possible in the reporting and investigation of any accident, and upon request, to cooperate with any insurance carrier in the handling of any claim by securing and giving evidence and obtaining the attendance of witnesses as required by any claim or suit.

**11.5.14** It is understood and agreed that the insurance coverages required by the provisions of this Contract are required in the public interest and that the Owner does not assume any liability for acts of the Contractor or Subcontractors of any tier or their employees in the performance of the Contract or Work.

## **11.6 Builder's Risk Insurance**

**11.6.1** The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the State of Missouri, as an admitted carrier, builder's risk insurance on the entire Work. Such insurance shall be written on a completed value form for the entire Work. The insurance shall apply on a replacement cost basis.

**11.6.2** The insurance as required herein shall name as insureds the Owner, the Contractor, and all Subcontractors of any tier. The insurance policy shall contain a provision that the insurance will not be canceled, allowed to expire or materially changed until at least thirty (30) days prior written notice has been given to the Owner.

**11.6.3** The insurance as required herein shall cover the entire Work, including reasonable compensation for Architect's services and expenses made necessary by an insured loss. Insured property shall include portions of the Work located away from the site (including all offsite stored materials) but intended for use at the site and shall also cover portions of the Work in transit. The policy shall include as insured property scaffolding, falsework, and temporary buildings located at the site. The policy shall cover the cost of removing debris, including demolition as may be made legally necessary by the operation of any law, ordinance, or regulation.

**11.6.4** The insurance required herein shall be on an all risk form and shall be written to cover all risks of physical loss or damage to the insured party and shall insure at least against the perils of fire and extended coverage, theft, vandalism, malicious mischief, collapse, lightening, earthquake, flood, frost, water damage, windstorm and freezing.

**11.6.5** If there are any deductibles applicable to the insurance required herein, the Contractor shall pay any part of any loss not covered because of the operation of such deductibles.

**11.6.6** The insurance as required herein shall be maintained in effect until the earliest of the following dates:

- .1** the date which all persons and organization who are insureds under the policy agree in writing that it shall be terminated;



- .2 the date on which final payment of this Contract has been made by the Owner to the Contractor; or
- .3 the date on which the insurable interests in the property of all insureds other than the Owner have ceased.

**11.6.7** The Owner and the Contractor waive all rights against (1) each other and any of their Subcontractors of any tier, suppliers, agents and employees, each of the other, (2) the Architect and Architect's consultants, and (3) separate contractors described in Article 6, if any, and any of their subcontractors of any tier, suppliers, agents and employees, for damages caused by fire or other perils to the extent covered by property insurance or other insurance applicable to the Work, except such rights as they have to proceeds of such insurance. The Owner or the Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the Subcontractors of any tier, suppliers, agents, and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, was at fault or was negligent in causing the loss and whether or not the person or entity had an interest in the property damaged.

**11.6.8** A loss insured under the Contractor's property insurance shall be adjusted by the Owner in good faith and made payable to the Owner for the insureds, subject to requirements of the Contract Documents. The Contractor shall pay Subcontractors of any tier their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors of any tier to make payments to their Sub-subcontractors in similar manner. The Contractor shall waive its rights to subrogation for any loss or damage to the Contractor's property or equipment coverage in favor of the Owner and other indemnified parties.

## **11.7 Bonds**

**11.7.1** When the Contract Sum exceeds Fifty Thousand Dollars (\$50,000), the Contractor shall procure and furnish a Performance Bond and a Payment Bond in the form prepared by the Owner, each in an amount equal to one hundred percent (100%) of the Contract Sum, as well as adjustments to the Contract Sum. The Performance Bond shall secure and guarantee the Contractor's faithful performance of this Contract, including but not limited to the Contractor's obligation to correct defects after final payment has been made as required by the Contract Documents. The Payment Bond shall secure and guarantee payment of all persons performing labor on the Project under this Contract and furnishing materials in connection with this Contract. These Bonds shall be in effect through

the duration of the Contract plus the Guaranty Period as required by the Contract Documents.

**11.7.2** The bonds required hereunder shall be executed by a responsible surety licensed in the State of Missouri, with a Best's rating of no less than A-/XI. The Contractor shall require the attorney in fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of this power of attorney indicating the monetary limit of such power.

**11.7.3** If the surety of any bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to conduct business in the State of Missouri is terminated, or it ceases to meet the requirements of this Section, the Contractor shall within ten (10) days substitute another bond and surety, both of which must be acceptable to the Owner. If Contractor fails to make such substitution, the Owner may procure such required bonds on behalf of the Contractor at the Contractor's expense.

**11.7.4** Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds to such person or entity.

**11.7.5** The Contractor shall keep the surety informed of the progress of the Work, and, where necessary, obtain the surety's consent to or waiver of: (1) notice of changes in the Work; (2) request for reduction or release of retention; (3) request for final payment; and (4) any other material required by the surety. The Owner shall be notified by the Contractor, in writing, of all communications with the surety, as it relates to items one through four. The Owner may, in the Owner's sole discretion, inform surety of the progress of the Work, any defects in the Work, or any defaults of the Contractor under the Contract Documents and obtain consents as necessary to protect the Owner's rights, interest, privileges and benefits under and pursuant to any bond issued in connection with the Work.

**11.7.6** The Contractor shall indemnify and hold harmless the Owner and any agents, employees, representative or member of the Board of Curators from and against any claims, expenses, losses, costs, including reasonable attorneys' fees, as a result of any failure of the Contractor to procure the bonds required herein.

## **ARTICLE 12**

### **UNCOVERING AND CORRECTION OF THE WORK**

#### **12.1 Uncovering of the Work**

**12.1.1** If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it shall, if required in writing by the Architect or the Owner's Representative, be uncovered for the Architect's observation and be replaced at the Contractor's expense without change in the Contract Time.

**12.1.2** If a portion of the Work has been covered which the Architect or the Owner's Representative has not specifically requested to observe, prior to its being covered, the Architect or the Owner's Representative may request to see such Work, and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work is not in accordance with the Contract Documents, the Contractor shall pay such costs unless the condition was caused by the Owner or a separate contractor in which event the Owner will be responsible for payment of such costs.

## **12.2 Correction of the Work**

**12.2.1** The Architect or the Owner's Representative shall have the right to reject Work not in strict compliance with the requirements of the Contract Documents. The Contractor shall promptly correct Work rejected by the Architect or the Owner's Representative for failing to conform to the requirements of the Contract Documents, whether observed before or after final completion and whether or not fabricated, installed, or completed. If Work has been rejected by the Architect or the Owner's Representative, the Architect or the Owner's Representative shall have the right to require the Contractor to remove it from the Project site and replace it with Work that strictly conforms to the requirements of the Contract Documents regardless, if such removal and replacement results in "economic waste." The Contractor shall pay all claims, costs, losses and damages caused by or resulting from the correction, removal or replacement of defective, or non-compliant Work, including but not limited to, all costs of repair or replacement of Work of others. The Contractor shall bear costs of correcting, removing and replacing such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby. If prior to the date of final payment, the Contractor, a Subcontractor, or anyone for whom either is responsible uses or damages any portion of the Work, including, without limitation, mechanical, electrical, plumbing, and other building systems, machinery, equipment or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

**12.2.2** If, within twelve (12) months after the date of Final Completion of the Work or designated portion thereof, or after the date for commencement of warranties, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found not to be in strict accordance with the requirements of the Contract Documents, the Contractor shall correct or remove and replace such defective Work, at the Owner's discretion. Such twelve (12) month period is referred to as the "Guarantee Period." The obligations under this Paragraph shall cover any repairs, removal, and replacement to any part of the Work or other property caused by the defective Work.

**12.2.3** The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

**12.2.4** If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct or remove it and replace such nonconforming Work. If the Contractor does not proceed with correction of such nonconforming Work within a reasonable time fixed by written notice from the Owner, the Owner may take action to correct or remove the nonconforming work at the Contractor's expense.

**12.2.5** The Contractor shall bear the cost of correcting destroyed or damaged Work or property, whether completed or partially completed, of the Owner or of others caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

**12.2.6** Nothing contained in Article 12 shall be construed to establish a period of limitation with respect to other obligations that the Contractor might have under the Contract Documents. Establishment of the twelve (12) month Guarantee Period as described in Article 12 relates only to the specific obligation of the Contractor to correct, remove or replace the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations under the Contract Documents. The requirements of Article 12 are in addition to and not in limitation of any of the other requirements of the Contract for warranties or conformance of the Work to the requirements of the Contract Documents.

## **12.3 Acceptance of Nonconforming Work**

**12.3.1** The Owner may accept Work which is not in accordance with the Contract Documents, instead of requiring its removal and correction, in its sole discretion. In such case, the Contract Sum will be adjusted as appropriate and equitable. Such adjustment shall be made whether or not final payment has been made. Nothing contained herein shall impose any obligation upon the Owner to accept nonconforming or defective Work.

## **ARTICLE 13 MISCELLANEOUS PROVISIONS**

### **13.1 Written Notice**

**13.1.1** All notices required to be given by the Contractor under the terms of this Contract shall be made in writing. Written notice when served by the Owner will be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an office of the corporation for which it was intended, or if delivered at or sent to the last business address known to the party giving notice.

### **13.2 Rights and Remedies**

**13.2.1** Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

**13.2.2** No action or failure to act by the Owner, the Architect, or the Owner's Representative will constitute a waiver of a right or duty afforded to the Owner under the Contract Documents, nor will such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

**13.2.3** The terms of this Contract and all representations, indemnifications, warranties and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the Work and termination or completion of the Work and shall remain in effect so long as the Owner is entitled to protection of its rights under applicable law.

**13.2.4** The Contractor shall carry out the Work and adhere to the current construction schedule during all disputes or disagreements with the Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements except as the Owner and the Contractor may otherwise agree to in writing.

### **13.3 Tests and Inspections**

**13.3.1** Tests, inspections, and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, codes, or regulations shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory, the Owner's Authorized Agent, or entity acceptable to the Owner, and the Contractor shall bear related costs of tests, inspections, and approvals as required in the Contract Documents. The Contractor shall give the Architect, the Owner's Representative, and the Owner's Authorized Agent timely notice of when and where tests and inspections are to be made so the Architect, the Owner's Representative and/or the Owner's Authorized Agent may observe procedures or perform the necessary tests or inspections.

**13.3.2** If the Architect, the Owner's Representative, or the Owner's Authorized Agent determine that portions of the Work require additional testing, inspection or approval not included in the Contract Documents, or required by law, the Architect, or the Owner's Representative will instruct the Contractor to make arrangements for such additional testing, inspection, or approval by an entity acceptable to the Owner's Representative and the Contractor shall give timely notice to the Architect, the Owner's Representative or the Owner's Authorized Agent, of when and where tests and inspections are to be made so

the Architect, the Owner's Representative and/or the Owner's Authorized Agent, may choose that the tests or inspections can be performed or observed. The Owner will bear such costs except as provided elsewhere in Article 13.

**13.3.3** If such procedures for testing, inspection, or approval under Article 13 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, the Contractor shall bear all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's and Owner's Authorized Agent's services and expenses.

**13.3.4** Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor, and promptly delivered to the Owner's Representative and the Architect.

**13.3.5** The Contractor shall take all necessary actions to ensure that all tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

**13.3.6** The Contractor shall arrange for and pay for all costs of all testing required by the Contract Documents or any applicable laws for materials to be tested or certified at or on the place or premises of the source of the material to be supplied. The Owner shall have the right to require testing of all materials at the place of the source of the material to be supplied if not required by the Contract Documents or any applicable laws. The Owner shall bear the costs of such tests and inspections not required by the Contract Documents or by applicable laws, unless prior defective Work provides the Architect or the Owner with a reasonable belief that additional defective Work may be found, in which case the Contractor shall be responsible for all costs of tests and inspections ordered by the Owner or the Architect, whether or not such tests or inspection reveals that Work is in compliance with the Contract Documents.

### **13.4 Nondiscrimination**

**13.4.1** In connection with the furnishing of equipment, supplies, and/or services under the Contract, the Contractor and all subcontractors shall not discriminate against any recipients of services, or employees or applicants for employment on the basis of race, color, national origin, ancestry, religion, sex, pregnancy, sexual orientation, gender identity, gender expression, age, disability, protected veteran status, or any other status protected by applicable state or federal law.

**13.4.2** The University serves from time to time as a contractor for and/or receives grant funding from the United States government and/or State of Missouri. Accordingly, the Contractor shall comply with all applicable state and federal laws, rules, regulations and executive orders applicable to subcontractors of government contractors or to contractors of grant recipients, including those relating to equal employment of minorities, women, persons with disabilities, certain veterans and based on sexual orientation and gender identity, as each may be amended from time to time. Contract clauses required by the

United States government or State of Missouri in such circumstances are incorporated herein by reference.

### **13.5 MBE/WBE/SDVE Participation Goals**

**13.5.1** The Contractor shall provide participation of MBE/WBE/SDVE Firms in the Project, through self-performance, if a MBE/WBE/SDVE Firm, or by subcontracting with MBE/WBE/SDVE Firms as Subcontractors, suppliers or manufacturers, in an amount that is no less than the percent of the Contract Sum that was promised in the Contractor's bid and/or the amount accepted by the Owner.

**13.5.2** If the Contractor must remove any MBE/WBE/SDVE Firm as a Subcontractor, supplier or manufacturer under the Contract, the Contractor shall replace the MBE/WBE/SDVE Firm with one or more MBE/WBE/SDVE Firms in an amount equal to the dollar value of the work awarded to the MBE/WBE/SDVE Firm that was removed. The Contractor shall immediately notify the Owner's Representative in writing of the Contractor's intent to remove any MBE/WBE/SDVE Firm as a Subcontractor, supplier or manufacturer, and the Contractor's plan to provide the promised amount of MBE/WBE/SDVE Participation. All changes of a MBE/WBE/SDVE Firm as a Subcontractor of any tier, supplier or manufacturer under the Contract shall be approved by the Executive Director of Facilities Planning and Development.

**13.5.3** If the Contractor fails to meet or to maintain the promised amount of MBE/WBE/SDVE Participation, the Contractor shall immediately notify in writing the Owner's Representative and the Executive Director of Facilities Planning and Development. Such notice shall include a description of the Contractor's good faith effort to provide the promised MBE/WBE/SDVE Participation.

**13.5.4** If the Executive Director of Facilities Planning and Development finds that the Contractor has failed to comply in good faith with the promised MBE/WBE/SDVE Participation the Executive Director may take appropriate action, including but not limited to, declaring the Contractor ineligible to participate in any contracts with the Owner for a period not to exceed six (6) months, and/or directing that the Contractor's actions be declared a material breach of the Contract and that the Contract be terminated.

**13.5.5** In the enforcement of the non-discrimination requirements in Section 13.4 and 13.5, the Owner may use any reasonable procedures available, including but not limited to: requests, reports, site visits, and inspection of relevant documents of Contractors and Subcontractors of any tier. The Contractor shall submit a final Affidavit of MBE/WBE/SDVE Participation for each MBE/WBE/SDVE Firm at the end of the project stating the actual amount paid to the MBE/WBE/SDVE Firm.

### **13.6 Wage Rates (If the Contract amount is less than \$75,000, the requirements of this Section will not apply. Any adjustments that increase the Contract cost above \$75,000 will be subject to this Section, per Section 290.230, RSMo.)**

**13.6.1** The Contractor and its Subcontractors shall pay all workers performing work under the Contract not less than the prevailing hourly rate of wages or the public works contracting minimum wage, whichever is applicable, as set out in the Annual Wage Order that is attached to and made part of the specifications for work under the Contract, in accordance with Sections 290.210 to 290.340, RSMo (Missouri Prevailing Wage Law) and related regulations. The Annual Wage Order(s) published by the Missouri Department of Labor and Industrial Relations (MDLIR) for the location where the Work is performed is incorporated into the Contract by this reference. The Contractor shall use applicable MDLIR regulations, including, but not limited to, 8 CSR 30-3.010-3.060, in determining the appropriate occupational titles and rates for workers used in the execution of this Contract. All determinations and/or interpretations regarding wage rates and classification of workers will be made by the office of the University of Missouri Executive Director of Facilities Planning and Development.

**13.6.2** If this Project is financed in whole or in part from Federal funds (as indicated in the bid or Contract Documents), then this Contract shall be subject to all applicable federal labor statutes, rules, and regulations, including provisions of the Davis-Bacon Act, 40 U.S.C. § 3141 et seq., and the "Federal Labor Standards Provisions." Where the Missouri Prevailing Wage Law and the Davis-Bacon Act require payment of different wages for work performed under this Contract, the Contractor and all Subcontractors shall pay the greater of the wages required under either law, on a classification-by-classification basis.

**13.6.3** The Contractor will forfeit a penalty to the Owner of \$100 per day (or portion of a day) for each worker that is paid less than the specified rate for any work done under the Contract by the Contractor or by any Subcontractor. The Owner shall deduct from any unpaid amounts then or thereafter due the Contractor under the Contract all sums and amounts due and owing as a result of any violation of Sections 290.210 to 290.340, RSMo. (Section 290.250, RSMo) The Contractor agrees to abide by any decision made by the Owner regarding underpayment of wages to workers and amounts owed them as well as penalties for underpayment of wages.

**13.6.4** The prevailing wage rate(s) and public works contracting minimum wage(s) included in the Annual Wage Order(s) include fringe benefits as set forth in Sections 290.219 and 290.257, RSMo. Fringe benefit payments may be made to the worker in cash, or irrevocably made by a Contractor or Subcontractor to a trustee or to a third person pursuant to a fund, plan or program, or pursuant to an enforceable commitment, or any combination thereof, to carry out a financially responsible plan or program which was communicated in writing to the workmen affected, for medical

or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the Contractor or Subcontractor is not required by other federal or state law to provide any of the benefits as referenced in Section 290.210(5), RSMo.

**13.6.5** The Contractor shall make full payment of the applicable required wages to workers in legal tender. Pay for travel, mileage, meals, bonuses, or other expenses are not fringe benefits and cannot be considered part of the workers wage rate. The Contractor shall not make any deductions for food, sleeping accommodations, transportation, use of small tools, uniforms, or anything of any kind or description, unless the Contractor and employee enter into an agreement in writing at the beginning of the worker's term of employment, and such agreement is approved by the Owner as fair and reasonable in accordance with Section 290.315, RSMo.

**13.6.6** The Contractor shall submit to the Owner with the Contractor's periodic pay request, certified payroll records for labor performed by the Contractor and Subcontractors of any tier. The Contractor shall submit all required certified payroll information records electronically in pdf format using the Owner's web-based payment program. The certified payroll forms shall contain the name, address, personal identification number, and occupational title of the workers as well as the hours they work each day. Do not include personal social security numbers in payroll records. The Owner's acceptance of certified payroll records does not in any way relieve the Contractor of any responsibility for the payment of prevailing wages to workers on the project. The Contractor shall also maintain copies of the certified payroll records. The Owner may, at any time, request copies of, and/or inspect all of the Contractor's payroll records for the Work to verify compliance. The Contractor shall furnish the Owner copies of payroll records within ten (10) days of the Owner's written request. The Contractor shall provide copies of workers I-9 forms within twenty-four (24) hours of written notice. Such payroll records shall be maintained in accordance with Article 13.7.1 and shall be available for inspection for two (2) years after final completion of the Work. Falsification of the certified payroll records may result in the debarment of the Contractor or Subcontractor from future work with the University.

**13.6.7** If applicable, the Contractor shall comply with the Copeland "Anti-Kick Act, 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.

**13.6.8** The Contractor shall specifically incorporate the obligations of Section 13.6 into the subcontracts, supply agreements and purchase orders for the Work and require the same of any Subcontractors of any tier.

**13.6.9** If Contractor fails to comply with the provisions of Section 13.6 of this Contract or with Sections 290.210 to 290.340, RSMo and related regulations, the Owner may, in its sole discretion, immediately terminate the Contract upon written notice. The rights and remedies of the Owner provided herein shall not be exclusive and are in addition to other rights and remedies provided by law or under this Contract.

**13.6.10** The Contractor may pay entry-level workers or federally-registered apprentices fifty percent (50%) of the pay of a journeyman in their same occupational title, in accordance with Section 290.235, RSMo and 8 CSR 30-3.030. Per 8 CSR 30-3.030, an entry-level worker is "[a]ny worker who is not a journeyman and who is not otherwise enrolled in a federally-registered apprenticeship program but is participating in an on-the-job training program provided by the contractor for whom they perform work on a public construction project." The University of Missouri may require documentation showing, to the University's sole satisfaction, that an entry-level worker is participating in an on-the-job training program with the Contractor. The combined total of such entry-level workers and federally registered apprentices shall not exceed a one-to-one ratio with the number of journeyman workers in any occupational title on the project.

**13.6.11** The Contractor shall post the wage rates for the Contract in a dry, accessible place at the field office on the project or, where there is no field office, at the Contractor's local office or batch plant so long as a copy is provided to workers upon request, as required by 8 CSR 30-3.050. The wage rates shall be kept in a clearly legible condition for the duration of the project.

**13.6.12** Neither the Contractor, nor any Subcontractor of any tier, nor any person hired by them or acting on their behalf, shall request, demand or receive, either before or after such worker is engaged, that such worker pay back, return, donate, contribute, or give any part or all of said worker's wages, salary, or thing of value, to any person, upon the statement, representation, or understanding that failure to comply with such request or demand will prevent such worker from procuring or retaining employment, and no person shall, directly or indirectly, pay, request or authorize any other person to violate this Section as set forth in Section 290.305, RSMo, the exception being to an agent or representative of a duly constituted labor organization acting in the collection of dues or assessments of such organization. No Contractor or Subcontractor may directly or indirectly receive a wage subsidy, bid supplement, or rebate for employment on this project if such wage subsidy, bid supplement, or rebate has the effect of reducing the wage rate paid by the employer on a given occupational title below the applicable wage rate as provided in the Contract. In the event a wage subsidy, bid supplement, or rebate is provided or received, the entity receiving such subsidy, supplement, or rebate shall report the

date and amount of such subsidy, supplement, or rebate to the University within thirty days of receipt of payment. This disclosure report shall be a matter of public record.

**13.6.13** The Contractor will pay workers overtime for all hours worked over ten (10) hours per day and forty (40) hours per week in accordance with Section 290.230, RSMo. For all overtime work performed, not less than one and one-half the prevailing hourly rate of wages for work of a similar character in the locality in which the Work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid. For all work performed on a Sunday or holiday, not less than twice the prevailing hourly rate of pay or public works contracting minimum wage will apply in accordance with Section 290.230, RSMo. For purposes of this Section, holidays are as follows: January first, the last Monday in May, July fourth, the first Monday in September, November 11, the fourth Thursday in November, December twenty-fifth. If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

### **13.7 Records**

**13.7.1** The Owner, or any parties it deems necessary, shall have access to and the right to examine any accounting or other records of the Contractor involving transactions and Work related to this Contract for five (5) years after final payment or five (5) years after the final resolution of any on going disputes at the time of final payment. All records shall be maintained in accordance with generally accepted accounting procedures, consistently applied. Subcontractors of any tier shall be required by Contractor to maintain records and to permit audits as required of Contractor herein.

### **13.8 Codes and Standards**

**13.8.1** The Work shall be performed to comply with the International Code Council (ICC) Codes, and the codes and standards noted below. The latest editions and supplements of these codes and standards in effect on the date of the execution of the Contract for Construction shall be applicable unless otherwise designated in the Contract Documents. Codes and standards required by accreditation agencies will also be used unless the ICC requirements are more stringent. In the event that special design features and/or construction systems are not covered in the ICC codes, the applicable edition of the National Fire Protection Association (NFPA) family of standards and/or the NFPA 101 Life Safety Code shall be used.

- .1** ICC International Building Code and reference standards
- .2** ICC International Plumbing Code
- .3** ICC International Mechanical Code
- .4** ICC International Fire Code
- .5** ICC International Fuel Gas Code
- .6** NFPA 70 National Electric Code (NEC)
- .7** Americans with Disabilities Act – Standards for Accessible Design.
- .8** American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving

Walks as published by the American Society of Mechanical Engineers (ASME), American National Standards Institute (ANSI) A17.1

- .9** NFPA 101 Life Safety Code (as noted above)
- .10** American Concrete Institute (ACI)
- .11** American National Standards Institute (ANSI)
- .12** American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
- .13** American Refrigeration Institute (ARI)
- .14** American Society for Testing and Materials (ASTM)
- .15** Missouri Standard Specification for Highway Construction, Missouri State Highway Commission
- .16** National Electrical Manufacturers Association (NEMA)
- .17** Underwriter's Laboratories, Inc. (UL), Federal Specifications
- .18** Williams Steiger Occupational Safety and Health Act of 1970 (OSHA)

### **13.9 General Provisions**

**13.9.1** Any specific requirement in this Contract that the responsibilities or obligations of the Contractor also apply to a Subcontractor is added for emphasis and are also hereby deemed to include a Subcontractor of any tier. The omission of a reference to a Subcontractor in connection with any of the Contractor's responsibilities or obligations shall not be construed to diminish, abrogate or limit any responsibilities or obligations of a Subcontractor of any tier under the Contract Documents or the applicable subcontract.

**13.9.2** This Contract shall be interpreted, construed, enforced, and regulated under and by the laws of the State of Missouri. Whenever possible, each provision of this Contract shall be interpreted in a manner as to be effective and valid under applicable law. If, however, any provision of this Contract, or a portion thereof, is prohibited by law or found invalid under any law, only such provision or portion thereof shall be ineffective, without invalidating or affecting the remaining provisions of this Contract or valid portions of such provision, which are hereby deemed severable. The Contractor and the Owner further agree that in the event any provision of this Contract, or a portion thereof, is prohibited by law or found invalid under any law, this Contract shall be reformed to replace such prohibited or invalid provision or portion thereof with a valid and enforceable provision which comes as close as possible to expressing the intention of the prohibited or invalid provision.

**13.9.3** The Contractor and the Owner each agree that the State of Missouri Circuit Court for the County where the Project is located shall have exclusive jurisdiction to resolve all Claims and any issue and disputes between the Contractor and the Owner. The Contractor agrees that it shall not file any petition, complaint, lawsuit or legal proceeding against the Owner in any other court other than the State of Missouri Circuit Court for the County where the Project is located.

**13.9.4** The Owner's total liability to the Contractor and anyone claiming by, through, or under the Contractor for any Claim, cost, loss, expense, or damage caused in part by the fault of the Owner and in part by the fault of The Contractor or any other entity or individual shall not exceed the percentage share

that the Owner's fault bears to the total fault of the Owner, the Contractor and all other entities and individuals as determined on the basis of comparative fault principles.

**13.9.5** The Contractor agrees that the Owner shall not be liable to the Contractor for any special, indirect, incidental, or consequential damage whatsoever, whether caused by the Owner's negligence, fault, errors or omissions, strict liability, breach of contract, breach of warranty or other cause or causes whatsoever. Such special, indirect, incidental or consequential damages include, but are not limited to loss of profits, loss of savings or revenue, loss of anticipated profits, labor inefficiencies, idle equipment, home office overhead, and similar types of damages.

**13.9.6** Nothing contained in this Contract or the Contract Documents shall create any contractual relationship with or cause of action in favor of a third party against the Owner.

**13.9.7** No member or officer of the Board of Curators of the University incurs or assumes any individual or personal liability under the Contract or by reason of the default of the Owner in the performance of any terms thereof. The Contractor releases and discharges all members or officers of the Board of Curators of the University from any liability as a condition of and as consideration for the award of the Contract to the Contractor.

**13.9.8** The Contractor hereby binds itself, its partners, successors, assigns and legal representatives to the Owner in respect to covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract or proceeds hereof without written consent of the Owner. If the Contractor attempts to make such an assignment without such consent, it shall be void and confer no rights on third parties, and the Contractor shall nevertheless remain legally responsible for all obligations under the Contract. The Owner's consent to any assignment is conditioned upon the Contractor entering into a written assignment which contains the following language: "It is agreed that the funds to be paid to the assignee under this assignment are subject to performance by the Contractor and to claims and to liens for services rendered or materials supplied for the performance of the Work required in said Contract in favor of all persons, firms, corporations rendering such services or supplying such materials."

### **13.10 Certifications**

#### **13.10.1 Suspension and Debarment**

The Contractor certifies to the best of its knowledge and belief that it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any department or agency in accordance with Federal Executive Orders 12549 (2/18/86) and 12689 (8/15/89).

#### **13.10.2 Anti-Discrimination Against Israel Act**

If this Contract is for \$100,000 or more, and if the Contractor is a company with ten (10) or more employees, then Contractor certifies that it, and any company affiliated with it,

does not boycott Israel, and will not boycott Israel during the term of this Contract. In this Paragraph, the terms "company" and "boycott Israel" shall have the meanings described in Section 34.600 of the Missouri Revised Statutes.

### **13.10.3 Byrd Anti-Lobbying Amendment**

- .1** If this Contract exceeds \$100,000 and is funded by Federal funding, Contractor agrees to file the required certification, in compliance with 31 U.S.C. § 1352 (as amended).
- .2** Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352.
- .3** Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

### **13.10.4 Work Authorization**

The Contractor and all subcontractors performing work under this Contract shall enroll and participate in a federal work authorization program operated by the United States Department of Homeland Security, E-Verify or an equivalent federal work authorization program, to verify information of newly hired employees, under the Immigration Reform and Control Act of 1986 (IRCA), P.L.99-603. By executing a contract with The Curators of the University of Missouri, the Contractor shall affirm its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted service and affirm that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. The Contractor shall maintain documentation of its participation in a federal work authorization program and make such documentation available to the University upon request.

## **ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT**

### **14.1 Termination by Owner for Cause**

**14.1.1** In addition to other rights and remedies granted to the Owner under the Contract Documents and by law, the Owner may terminate the Contract if the Contractor:

- .1** refuses or fails to supply enough properly skilled workers, superintendents, foremen, or managers;
- .2** refuses or fails to supply sufficient or proper materials;
- .3** fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .4** disregards laws, ordinances, rules, codes, regulations or orders of an authority having jurisdiction;

- .5 disregards the authority of the Owner's Representative, the Architect, or the Owner's Authorized Agent;
- .6 breaches any warranty or representations made by the Contractor under or pursuant to the Contract Documents;
- .7 fails to furnish the Owner with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all the requirements of the Contract Documents;
- .8 fails after commencement of the Work to proceed continuously with the construction and completion of the Work for more than ten (10) days, except as permitted under the Contract Documents;
- .9 fails to maintain a satisfactory rate of progress with the Work or fails to comply with approved progress schedules; or
- .10 violates in any substantial way any provisions of the Contract Documents.

**14.1.2** When any of the above reasons exist, the Owner may, without prejudice to any other rights or remedies of the Owner, terminate this Contract by delivering a written notice of termination to the Contractor and the Contractor's surety, and may:

- .1 take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 accept assignment of subcontracts pursuant to Section 5.3; and
- .3 finish the Work by whatever reasonable method the Owner may deem expedient, including turning the Work over to the surety.

**14.1.3** The Contractor, in the event of a termination under Section 14.1, shall not be entitled to receive any further payments under the Contract until the Work is completed in its entirety. Then, if the unpaid balance under the Contract shall exceed all expenses of the Owner in finishing the Work, including additional compensation for the Architect's services and expenses made necessary thereby, such excess will be paid to the Contractor; but, if such expenses of the Owner to finish the Work shall exceed the unpaid balance, the Contractor and its surety shall be liable for, and shall pay the difference and any damages to the Owner. The obligation of the Contractor and its surety for payment of said amounts shall survive termination of the Contract.

**14.1.4** In exercising the Owner's right to secure completion of the Work under any of the provisions hereof, the Owner shall have the right to exercise the Owner's sole discretion as to the manner, methods, and reasonableness of costs of completing the Work.

**14.1.5** The rights of the Owner to terminate pursuant to Article 14.1 will be cumulative and not exclusive and shall be in addition to any other remedy provided by law or the Contract Documents.

**14.1.6** Should the Contractor fail to achieve Final Completion of the Work within thirty (30) calendar days following the date of Substantial Completion, the Owner may exercise its rights under Section 14.1.

## **14.2 Suspension by the Owner for Convenience**

**14.2.1** The Owner may, without cause, order the Contractor in writing to suspend, delay, or interrupt the Work in whole or in part for such period of time as the Owner may determine.

**14.2.2** An adjustment will be made to the Contract Sum for increases in the cost of performance of the Contract caused by suspension, delay or interruption. However, in the event of a suspension under Section 14.2, Contractor hereby waives and forfeits any claims for payment of any special, indirect, incidental or consequential damages such as lost profits, loss of savings or revenue, loss of anticipated profits, idle labor or equipment, home office overhead, and similar type damages. No adjustment will be made to the extent:

- .1 that performance is, was, or would have been so suspended, delayed or interrupted by another cause for which the Contractor in whole or in part is responsible, or
- .2 that an equitable adjustment is made or denied under another provision of this Contract.

## **14.3 Owner's Termination for Convenience**

**14.3.1** The Owner may, at any time, terminate the Contract in whole or in part for the Owner's convenience and without cause. Termination by the Owner under this Paragraph shall be by a notice of termination delivered to the Contractor specifying the extent of termination and the effective date.

**14.3.2** Upon receipt of a notice of termination for convenience, the Contractor shall immediately, in accordance with instructions from the Owner, proceed with performance of the following duties regardless of delay in determining or adjusting amounts due under this Paragraph:

- .1 cease operation as specified in the notice;
- .2 place no further orders and enter into no further subcontracts for materials, labor, services or facilities except as necessary to complete Work not terminated;
- .3 terminate all subcontracts and orders to the extent they relate to the Work terminated;
- .4 proceed to complete the performance of Work not terminated; and
- .5 take actions that may be necessary, or that the Owner may direct, for the protection and preservation of the terminated Work.

**14.3.3** Upon such termination, the Contractor shall recover as its sole remedy payment for Work properly performed in connection with the terminated portion of the Work prior to the effective date of termination and for items properly and timely fabricated off the Project site, delivered and stored in accordance with the Owner's instructions and for all Owner approved claims, costs, losses and damages incurred in settlement of terminated contracts with Subcontractors and suppliers. The Contractor hereby waives and forfeits all other claims for payment and damages, including, without limitation,



anticipated profits, consequential damages and other economic losses.

**14.3.4** The Owner shall be credited for (1) payments previously made to the Contractor for the terminated portion of the Work, (2) claims which the Owner has against the Contractor under the Contract and (3) the value of the materials, supplies, equipment, or other items that are to be disposed of by the Contractor that are part of the Contract Sum.

**14.3.5** Upon determination by a court that termination of Contractor or its successor in interest pursuant to Section 14.1 was wrongful, such termination will be deemed converted to a termination for convenience pursuant to Section 14.3, and Contractor's sole and exclusive remedy for wrongful termination is limited to recovery of the payments permitted for termination for convenience as set forth in ++

SECTION 1.E  
SPECIAL CONDITIONS

1. DEFINITIONS

a. "Drawings"

Drawings referred to in and accompanying Project Manual consist of Drawings prepared by and bearing name of below defined Architect, bearing **November 21, 2025 – CP252841 Various Locations – Roof Replacement.**

b. Architect

PWArchitects, Inc.  
2021 Forum Blvd., Ste. 101  
Columbia, Mo. 65203  
Phone: 573.449.2683

c. Structural Engineer

Crockett Engineering Consultants, LLC  
1000 W Nifong Blvd, Bldg 1  
Columbia, Mo. 65203  
Phone: 573.447.0292

d. Other Definitions: See Article 1., General Conditions.

2. SPECIAL SCHEDULING REQUIREMENTS

a. Special scheduling requirements supplemental to the bid form.

(1) Normal working hours are defined as weekdays between the hours of 7:00am and 4:00pm, or as approved by Owner's Representative.

b. Refuse/Trash Removal and Material Delivery: As directed by Owner's Representative.

c. Coordinate permits for street closures and traffic control measures with City of Columbia. Allow a minimum of 30 days review time for closures or lane changes lasting more than 30 days. Contractor shall be responsible for obtaining all City required permits and coordinating City permit timelines with Construction scheduling. Contractor shall be responsible for permit cost.

3. SCOPE OF WORK

a. The Contractor shall furnish all labor, materials, tools, equipment necessary for, and incidental to, construction of this project as indicated on Drawings and specified herein.

b. Work shall include everything requisite and necessary to finish work properly, notwithstanding that every item of labor or materials or accessories required to make project complete may not be specifically mentioned.

c. General Description of Work:

- (1) Project consists of roof replacement on the 1923 and 1955 Power Plant Additions. On the 1923 building, alternates are included for removal and replacement of the existing wood roof deck with new fluted steel decking; there are two alternates each corresponding to different sections of the roof.
- (2) Demolition shall consist of removing the existing built-up roofing, cover board, insulation, and vapor barriers. Selective removal of sheet metal items.
- (3) Architectural work shall consist of installation of a new EPDM fully-adhered membrane system over cover board over insulation over vapor barrier(s). Repair or replacement of any existing decking that is to remain; this may include both concrete and/or wood decking. Sheet metal work including modification of existing flashings, addition of new flashings, and temporary removal of existing flashings and /or copings as required for completion of the work. Selective minor repainting of steel items. Incidental removal and replacement of existing roof-mounted equipment.
- (4) Structural work shall consist of incidental roof deck opening infill and patching.

If alternates are selected, removal of indicated wood decking and installation of new steel decking. Installation of additional bracing as noted in documents.

4. LOCATION

Work shall be performed under this Contract on campus of the University of Missouri – Columbia at the Central Power Plant at the corner of Stewart and 5<sup>th</sup> street.

5. NUMBER OF CONSTRUCTION DOCUMENTS

- a. The Owner's Representative will furnish the Contractor a copy of executed Contract and a complete set of Drawings and Specifications in PDF format.
- b. The Owner will provide electronic data files to the Contractor for their convenience and use in progressing the Work and the preparation of shop drawings or other submittal requirements required for construction of the referenced project. The electronic data files shall reflect Construction Documents and Bid Addenda only. These files will be transmitted subject to the following terms and conditions:
  - (1) The Owner makes no representation as to the compatibility of these files with the Contractor's hardware or software.
  - (2) Data contained on these electronic files shall not be used by the Contractor or anyone else for any purpose other than as a convenience in progressing the Work or in the preparation of shop drawings or other required submittals for the referenced project. Any other use or reuse by the Contractor or by others will be at their own sole risk and without liability or legal exposure to Owner. The Contractor agrees to make no claim and hereby waive, to the fullest extent permitted by law, any claim or cause of action of any nature against the Owner and its consultants, contractors, agents, employees, and representatives that may arise out of or in connection with the use of the electronic files transmitted.

- (3) Furthermore, the Contractor shall, to the fullest extent permitted by law, indemnify and hold harmless the Owner and its consultants, contractors, agents, employees, and representatives, against all damages, liabilities or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.
- (4) These electronic files are not contract documents. Differences may exist between these electronic files and corresponding hard-copy construction documents. The Owner makes no representation regarding the accuracy or completeness of the electronic files you receive. In the event that a conflict arises between the signed or sealed hard-copy construction documents prepared by the Consultant and the electronic files, the signed and sealed hard-copy construction documents shall govern. The Contractor is responsible for determining if any conflict exists. By use of these electronic files, the Contractor is not relieved of their duty to fully comply with the contract documents.
- (5) Because information presented on the electronic files can be modified, unintentionally or otherwise, the Owner reserves the right to remove all indications of ownership and/or involvement from each electronic display.
- (6) Under no circumstances shall delivery of the electronic files be deemed a sale by the Owner and no warranties are made, either expressed or implied, of merchantability and fitness for any particular purpose. In no event shall the Owner be liable for any loss of profit, or any consequential damages as a result of use or reuse of these electronic files.

## 6. SUBMITTALS

- a. The Contractor shall submit for approval to the Architect, equipment lists and Shop Drawings, as expediently as possible. Failure of the Contractor to submit Shop Drawings in a timely manner will result in the Owner holding back Contractor payments. (See General Conditions)
- b. The material and equipment lists shall be submitted and approved before any material or equipment is purchased and shall be corrected to as-built conditions before the completion of the project.
- c. The Contractor shall submit electronic versions of all required Shop Drawings, material and equipment lists. The Contractor shall upload all Shop Drawings to a secure information sharing website determined by the Owner notifying the Owner and Consultant that these shop drawings are available for review. Each submittal shall have the General Contractors digital stamp affixed to the first page signifying their review and acceptance. Review comments, approvals, and rejections will be posted on this same site with notification to the contractor. Submittals requiring a professional seal shall be submitted hard copy with a manual seal affixed.
  - (1) The Contractor shall identify each submittal item with the following:
    - (a) Project Title and Location
    - (b) Project Number
    - (c) Supplier's Name
    - (d) Manufacturer's Name
    - (e) Contract Specification Section and Article Number
    - (f) Contract Drawing Number
    - (g) Acrobat file name: Spec Section\_Times Submitted-Spec Title: 033000\_01-Cast In Place Concrete.pdf

- (2) Reference the accompanying Shop Drawing and Submittal Log at the end of this section (1.E.3) for required submittal information.
- d. The Contractor shall submit to the Owner's Representative all items referenced in the accompanying Closeout Log (1.E.5) within 30 days following substantial completion of the work. The Owner's Representative will maintain the closeout log and include as an agenda item at all coordination meetings.

## 7. NOTIFICATION

Before beginning Demolition Work or service outages, the Contractor shall provide, at minimum, seventy-two (72) hours advance notice to Owner's Representative for purpose of verifying utility locations including, but not limited to, gas, telecommunications, electric, water, steam, sewer, and nitrogen. Contractor shall minimize the number of outages, minimize the length of outages and related work shall be continuous until the utility is restored.

## 8. USE OF PREMISES

- a. Access: Access to construction site shall be as indicated on Drawings and as directed by the Owner's Representative.
- b. Parking:
  - (1) The Owner will provide limited on-site parking for general contractor or subcontractor owned and labeled vehicles only, at a location as indicated on the Project Drawings. Personal vehicles are prohibited from use of these permits.
  - (2) Parking of personal vehicles within project access/lay down/staging areas is prohibited. Violation of this requirement may result in ticketing and/or towing at the vehicle owner's expense and suspension of progress payments.
  - (3) Parking or driving on sidewalks, landscaped areas, within fire and service lanes or generally in areas not designated for vehicular traffic is prohibited except as allowed in the contract documents. Violation of this requirement may result in ticketing and/or towing at the vehicle owner's expense and suspension of progress payments.
  - (4) Free parking for contractor employees is available in the Ashland Road Contractor lot on an as available basis. This space is for use by contractor employees for parking their personal vehicles only and is not to be used for staging or storage.
  - (5) Vendor Permits may be purchased by contractor management personnel on an as available basis by contacting the Parking and Transportation office in the Turner Avenue Parking Structure. These permits will allow contractor management personnel to park in various University lots while conducting business on University construction projects.
  - (6) Temporary University parking permits may be purchased by contractor employees for use with their personal vehicles on an as available basis by contacting the Parking and Transportation office in the Turner Avenue Parking Structure.

- (7) Conley Avenue between Missouri Avenue and University Avenue and Hitt Street between University Avenue and the Memorial Union are designated for pedestrian use only during the work week between the hours of 8:15 AM and 3:45 PM. Unless otherwise indicated in the contract documents, this area is strictly off limits to vehicular traffic without authorization from the Owner's Representative.
- c. Storage of materials: The Contractor shall store all materials within project limits. The Contractor shall confine apparatus, materials, and operation of workers to location established by the Owner's Representative. The Contractor shall not unreasonably encumber premises with materials. In addition, storage trailer locations may be available within 1-1/2 miles of project site as directed by the Owner's Representative. Storage trailer locations shall be subject to approval by the Owner's Representative and are available to the Contractor without cost.
  - d. Utilities: Drinking water, water required to carry on work, and 120-volt electrical power required for small tool operation may be obtained without cost to the Contractor from existing utilities at locations designated by the Owner's Representative. Provisions for obtaining power, including temporary extensions, shall be furnished, and maintained by the Contractor. Upon completion of work such extensions shall be removed and any damage caused by use of such extensions shall be repaired to satisfaction of the Owner's Representative, at no cost to the Owner.
  - e. Restroom: The Contractor shall provide and maintain, in a sanitary condition, chemical type portable toilet facilities at work site for use by his personnel. Toilets and toilet location shall be subject to approval by the Owner's Representative.
  - f. Smoking is prohibited at the University of Missouri and all properties owned, operated, leased or controlled by the University of Missouri. Violation of the policy is defined as smoking any tobacco products, including e-cigarettes.
  - g. Landfill: The Contractor shall not use the Owner's landfill. Dumping or disposal of excavated or demolition materials on Owner's property shall not be permitted. The Contractor shall remove and legally dispose of excavated or demolished materials off the Owner's property.
  - h. Care of Project Work Site: The contractor shall be responsible for maintaining the construction site in a reasonably neat and orderly condition by regular cleaning and mowing of the premises as determined by the Owner's Representative.
  - i. Discharge to Sewer Request: The University of Missouri's MS4 permit and NPDES Storm Water Discharge Permits along with the City of Columbia's POTW Operating Permit as well as local ordinances, and state and federal environmental regulations prohibit hazardous materials from being disposed into either the storm water or sanitary sewer systems. Unless specifically approved, all chemical products such as paints, dyes, lawn care products, maintenance products, and oil is are prohibited from drain disposal. Any product, including contaminated water, being discarded into the storm water or sanitary sewer systems requires written approval from the Owner through a formal "Discharge to Sewer Request" form obtained at [Discharge to Sewer Request Form](#). The contractor should submit the form to the Owner's Representative, not to the Department of Environmental Health and Safety as the form indicates.
  - j. All concrete waste material including washout water shall be totally contained and removed from the Owner's property.

- k. **Artifacts Found During Construction:** Contractor shall immediately notify the Owner's Representative when artifacts are uncovered or found during the demolition or construction process. Artifacts include, but are not limited to, tools, drawings (construction or other), photographs, books and other objects/devices which may hold historical importance/significance. Do not remove or disturb the object(s) in question. Artifacts are not considered part of demolished materials and shall remain the property of the University of Missouri.

l. **"Permit Required Confined Space" Entry Communication and Coordination**

(See OSHA 1926 subpart aa – Construction Confined Space for the definition of "permit required confined spaces" - Note: OSHA does not apply to the University. However, the University will provide a list of all known "permit required confined spaces")

There are no known "permit required confined spaces" within the project limits. Each contractor shall conduct a survey to confirm whether or not any confined spaces exist within the project limits. It is incumbent upon each contractor to list all "permit required spaces".

The Contractor shall notify the Owner's Representative if 1) conditions change resulting in a non-permit required confined space being reclassified to a "permit required confined space" after evaluation of the space by a competent person; 2) a space previously thought to be non-permit required space is classified as a "permit required confined space"; or 3) during the course of construction a "permit required confined space" is created after evaluation by a competent person.

The Contractor shall submit to the Owner's Representative a copy of the cancelled confined space entry permit and a written report summarizing the permit space program followed and all hazards confronted or created during entry operations. This information shall be submitted within one week of cancelling the permit.

9. **PROTECTION OF OWNER'S PROPERTY**

- a. The Contractor shall be responsible for repair of damage to building exterior and interior, drives, curbs, streets, walks, grass, shrubbery and trees, which was caused by workmen or equipment employed during progress of work. All such repairs shall be made to satisfaction of the Owner's Representative, at no cost to the Owner, or reimburse the Owner if the Owner elects to make repairs. For landscape damage, the Owner shall make such repairs. Compensation for these repairs shall be determined by the Owner's Representative using the "Valuation of Landscape Trees, Shrubs, and other Plants" as published by the International Society of Arboriculture, as last revised.

- b. **Construction Project Fencing and Work Area Protection:**

- (1) **Public Areas along Fifth and Stewart Streets:** Fencing requirements, as indicated on Drawings, shall be constructed of 9 or 11-gauge chain link fence panels not less than six (6) feet in height and not more than 2-inch mesh with posts spaced not more than ten (10) feet apart and mounted on "tee"-stands sufficiently weighted to keep the fence in position. Fenced in area shall have at least two (2) access gates and all gates shall be lockable.

Allow Owner access to gas meter/regulator station located on the north side of Stewart Street, south of the 1923 building.

- (2) **Private Areas inside the Power Plant Fence Perimeter:** Project worksite shall be kept continuously protected with, at minimum, barricade tape, supported by metal tee posts spaced not more than ten (10) feet apart and embedded in five (5) gallon buckets of concrete or an equivalent method of support. Tape shall be brightly colored, fluorescent, and reflective. Portions of tape shall be reinstalled when work activities cease and during all non-work periods.
  - (2) Using existing landmarks, lamp posts, trees, or other Owner property for support of fencing is strictly prohibited unless a written waiver is obtained from Owner's Representative.
  - (3) Use of ribbon, snow fence, chicken wire, rope, and wooden barricades as fencing is prohibited.
  - (4) Fencing shall be maintained in an "as-installed" condition throughout the life of the project.
  - (5) The Contractor may use used fencing provided it is in good condition and is satisfactory to the Owner's Representative.
- c. Preserving and Protecting Existing Vegetation:
- (1) Protection and compensation for damages:
    - (a) Trees and shrubs within work area designated to remain shall be protected from damage during construction by fixed chain link fencing or armoring as indicated on Drawings or specified herein. Plant protection devices shall be installed before work has begun and shall be maintained for duration of work unless otherwise directed by Owner's Representative.
  - (2) To prevent compaction of soil over tree roots, vehicles or equipment shall not at any time park or travel over, nor shall any materials be stored within drip line of trees designated to remain.
  - (3) Owner's Representative will stop work immediately when proper measures are not being employed to protect trees and shrubs. Contractor will be notified to resume work after required protection measures are implemented.
  - (4) Pruning of limbs necessary to repair damage or provide clearance for work shall be done by the MU Landscape Services Department at the direction of the Owner's Representative. Limbs shall be cut off cleanly and cut surfaces treated according to established horticultural standards.

## 10. SUBSTITUTIONS and EQUALS

- a. Substitutions are defined in General Conditions article 3.11.8 for and Equals are defined General Conditions Article 3.12 .
- b. Use of materials, products, or equipment other than those named and described in the Contract Documents are substitutions and/or equal. Substitutions and/or equals submitted during the bidding period shall be received by both the Architect and the Owner at least ten calendar days prior to the date for receipt of bids. To be considered, bidder's proposal shall include a complete description of the proposed substitution and/or



equal and a comparison of significant qualities of the proposed substitution and/or equal with those specified including drawings, performance and test data, and other information necessary for an evaluation. The Architect's decision on the approval or disapproval of a proposed substitution and/or equal shall be final.

- c. If the Architect and Owner approve a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approval made in any other manner.

#### 11. CODES AND STANDARDS

The Contractor shall comply with applicable codes and standards as listed in General Conditions.

#### 12. PERMITS

- a. Prior to commencement of Work, the Contractor shall obtain and pay for all appropriate street closures and traffic control measures permits from the City of Columbia.
- b. Permits and inspection for work on UM property are required.
- c. The Owner's Representative shall secure University Authority Having Jurisdiction building permits required for the project and shall provide a list of required inspections to the Contractor.
  - (1) The Contractor shall coordinate and provide reasonable scheduling and access to the Work for the Owner's Inspection.
  - (2) Re-inspection of work as a result of either failed inspection or work not ready as scheduled may be at the Contractor's expense.
- d. All permits, including but not limited to Hot Work, Fire Alarm, Energized Work and HVAC interruption shall be coordinated and schedule with the Owner's Representative or designee prior to commencement of the work.

#### 13. PRE-BID INSPECTION

All pre-bid inspections of work areas shall be scheduled with pre-bid inspection guide, telephone: (573) 882-6800.

#### 14. ROOF CERTIFICATION AND WARRANTY REQUIREMENT

- a. The Contractor shall submit a copy of the University of Missouri Roof System Manufacturer's Certification for each proposed roofing system, within two business days following receipt of bids by the Owner. The Certification shall be submitted to the Owner and the Architect of Record and shall be manually signed by an authorized representative of Manufacturer of each proposed roofing system. Certification shall have original signature.
- b. The Contractor shall submit a sample copy of the Roof Manufacturer's Warranty for each proposed roofing system, within two (2) business days following receipt of bids by the Owner, clearly labeled as "SAMPLE". The sample warranty(s) shall be submitted to the Owner and the Architect of Record.
- c. The Owner and Architect of Record will review both documents for compliance with the Contract Documents and will notify the Contractor with required modifications.

- d. Within two weeks following final inspection and acceptance of the roofing system(s) by the Owner and the roofing system manufacturer(s), the Contractor shall submit a manually signed standard warranty agreement, in the same form as the sample, provided and executed by the roofing system manufacturer for each roofing system provided. Standard warranty agreement(s) shall be of the duration specified in Division 7.
- e. University of Missouri three (3) year Contractor's Roofing/Flashing/Sheet metal Guarantee shall be signed by the roofing contractor after final inspection and acceptance of each roofing system by Manufacturer and by Owner.

15. MODIFICATIONS TO GENERAL CONDITIONS

a. General Conditions

- (1) Add to the Insurance Requirements in General Conditions Article 11, Asbestos Liability Coverage, for specified asbestos abatement in the contract documents, in a limit no less than \$1,000,000 combined single limit, per occurrence and aggregate, for both bodily injury and property damage combined. The Owner will accept coverage from the Asbestos Removal Subcontractor in lieu of the General Contractor subject to all requirements set forth in article 11.

16. PROJECT SCHEDULING

- a. Contractor Schedule – Contractor is responsible for the schedule, that may be provided with in-house personnel or hired a third-party scheduling consultant. See Contractor Schedule Requirements included in these documents.

b. Contractor Schedule Requirements

(1) GENERAL

- (a) Time is of the essence for this contract. The time frames spelled out in this contract are essential to the success of this project. The University understands that effective schedule management, in accordance with the General Conditions and these Special Conditions is necessary to insure to that the critical milestone and end dates spelled out in the contract are achieved.

(b) Related Documents

- (i) Drawings and general provisions of the Contract, including General Conditions' Article 3.18 shall apply to this Section.

(c) Stakeholders

- (i) A Stake holder is anyone with a stake in the outcome of the Project, including the University, the University Department utilizing the facility, the Design Professionals, the Contractor and Subcontractor(s).

(d) Weather

- (i) Contractor acknowledges that there will be days in which work cannot be completed on weather sensitive activities, due to the weather, and that a certain number of these lost days are to be expected under normal weather conditions in Missouri.
- (ii) Rather than speculate as to what comprises “normal” weather at the location of the project, Contractor agrees that it will assume a total of 44 lost days, on weather sensitive activities of critical path work, due to weather over the course of a calendar year and include same in its as planned schedule. For projects of less than a calendar year, lost weather days should be prorated for the months of construction in accordance with the following schedule.
- (iii) Anticipated weather days for allocation/proration only. For projects lasting 12 months or longer, the 44 days per year plus whatever additional months are included will constitute normal weather.

Jan – 5 days	Feb – 5 days	Mar – 4 days	Apr – 4 days
May – 3 days	Jun – 3 days	Jul – 2 days	Aug – 2 days
Sep – 3 days	Oct – 4 days	Nov – 4 days	Dec – 5 days

- (iv) The Contractor shall notify the Owner’s Representative via email on the same day a lost weather day occurs and shall maintain a log of weather days to be included in the Narrative described in 2.3.4 herein.

(2) SCHEDULING PROCESS

- (a) The intent of this section is to ensure that a well-conceived plan, that addresses the milestone and completion dates spelled out in these documents, is developed with input from all stakeholders in the project. Input is limited to all reasonable requests that are consistent with the requirements of the contract documents, and do not prejudice the Contractor’s ability to perform its work consistent with the contract documents. Further, the plan must be documented in an understandable format that allows for each stakeholder in the project to understand the plan for the construction and/or renovation contained in the Project.

(b) Contractor Requirements

(i) Schedule Development

Contractor shall prepare the Project Schedule using the latest version of Phoenix Project Management scheduling software or other software as approved by the Owner’s Representative prior to receipt of bids.

Contractor shall review each major subcontractor’s schedule with the sub and obtain the subcontractor’s concurrence with the schedule, prior to submitting to the University.

(ii) Schedule Updates

1. Schedule Updates will be conducted once a month, at a minimum. Actual Start and Finish dates should be recorded regularly during the month. Remaining Duration shall be updated as of the data date, just prior to Contractor's submittal of the updated data.
2. Contractor will copy the previous months schedule and will input update information into the new monthly update version.
3. Contractor will meet with the Owner's Representative to review the draft of the updated schedule. At this meeting, Owner's Representative and Contractor will:
  - (a) Review out of sequence progress, making adjustments as necessary.
  - (b) Add any fragments necessary to describe changes or other impacts to the project schedule and
  - (c) Review the resultant critical and near critical paths to determine any impact of the occurrences encountered over the last month.

(iii) Schedule Narrative

After finalization of the update, the Contractor will prepare a Narrative that describes progress for the month, impacts to the schedule and an assessment as to the Contractor's entitlement to a time extension for occurrences beyond its control during the month and submit in accordance with this Section.

(c) Progress Meetings

- (i) Review the updated schedule at each monthly progress meeting. Payments to the Contractor may be suspended if the progress schedule is not adequately updated to reflect actual conditions.
- (ii) Submit progress schedules to subcontractors to permit coordinating their progress schedules to the general construction work. Include four (4) weeks look ahead schedules to allow subs to focus on critical upcoming work.

(3) CRITICAL PATH METHOD (CPM)

- (a) This Section includes administrative and procedural requirements for the critical path method (CPM) of scheduling and reporting progress of the Work.
- (b) Refer to the General and Special Conditions and the Agreement for definitions and specific dates of Contract Time.

- (c) Critical Path Method (CPM): A method of planning and scheduling a construction project where activities are arranged based on activity relationships and network calculations determine when activities can be performed and the critical path of the Project.
- (d) Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall project duration.
- (e) Network Diagram: A graphic diagram of a network schedule, showing the activities and activity relationships.
- (f) Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling, the construction project. Activities included in a construction schedule consume time and resources.
- (g) Critical activities are activities on the critical path.
- (h) Predecessor activity is an activity that must be completed before a given activity can be started.
- (i) Milestone: A key or critical point in time for reference or measurement.
- (j) Float or Slack Time: The measure of leeway in activity performance. Accumulative float time is not for the exclusive use or benefit of the Owner or Contractor but is a project resource available to both parties as needed to meet contract milestones and the completion date.
- (k) Total float is herein defined as the measure of leeway in starting or completing an activity without adversely affecting the planned project completion date.
- (l) Weather: Adverse weather that is normal for the area must be taken into account in the Contractor's Project Schedule. See 1.(d)(iii), above.
- (m) Force Majeure Event: Any event that delays the project but is beyond the control and/or contractual responsibility of either party.
- (n) Schedule shall include the following, in addition to Contractor's work.
  - (i) Phasing: Provide activity codes in the schedule to show how the sequence of the Work is affected by the following:
    1. Requirements for phased completion and milestone dates.
    2. Work by separate contractors.
    3. Work by the Owner
    4. Coordination with existing construction.
    5. Limitations of continued occupancies.
    6. Uninterruptible services.
    7. Partial occupancy prior to Substantial Completion.
    8. Area Separations: Use Activity Codes to identify each major area of construction for each major portion of the Work. For the purposed of the Article, a "major area" is a story of construction, a separate building, or a similar significant construction element.
    9. Required delivery dates for Owner furnished equipment,

- if applicable
10. Post substantial completion activities and closeout
  11. Floor or Level: Use separate activity codes to identify each floor or level.
  12. Subcontractor: Use Activity Codes to identify each subcontractor's work activities.
  13. Type Work or Craft: Use Activity Codes to identify the type of work, or craft that will execute each activity.

(4) TIME EXTENSION REQUEST

- (a) Refer to General Conditions of the Contract for Construction, Article 4.7 Claims for Additional Time.
- (b) Changes or Other Impacts to the Contractor's Work Plan. The Owner will consider and evaluate requests for time extensions due to changes or other events beyond the control of the Contractor on a monthly basis only, with the submission of the Contractor's updated schedule, in conjunction with the monthly application for payment. The Update must include:
  - (i) An activity depicting the event(s) impacting the Contractors work plan shall be added to the CPM schedule, using the actual start date of the impact, along with actually required predecessors and successors.
  - (ii) After the addition of the impact activity(ies), the Contractor will identify subsequent activities on the critical path, with finish to start relationships that can be realistically adjusted to overlap using good, standard construction practice.
    1. If the adjustments above result in a completion date beyond the contract completion date, the delay shall be deemed excusable, and the contract completion date shall be extended by the number of days indicated by the analysis.
    2. Contractor agrees to continue to utilize its best efforts to make up the time caused by the delays. However, the Contractor is not expected to expend costs not contemplated in its contract, in making those efforts.
- (c) Questions of compensability of any delays shall be held until the actual completion of the project. If the actual substantial completion date of the project based on excusable delays, excluding allocated weather delays, exceeds the original contract completion date, AND there are no delays that are the responsibility of the contractor to consider, the delays days may be considered for equitable adjustment. In review of time extension requests for compensable days, the Owner will consider the actual number of weather days incurred.
- (d) Home office expenditures and staff are NOT compensable.

17. PROJECT COORDINATION

- a. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations.
  - (1) Schedule construction operations in the 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 to assure maximum accessibility for required maintenance, service, and repair.
  - (3) Make provisions to accommodate items scheduled for later installation.

18. SAFETY PRECAUTIONS AND PROGRAMS

- a. The contractor shall provide Emergency Contact Information for the Contractor's on-site staff and home office management as well as contact information for all major subcontractor personnel. This information shall contain business and personal phone numbers for each individual for contact during or after hours in case of an emergency. This information shall be submitted within 15 days of the Notice to Proceed.

19. HOT WORK PERMITTING AND GENERAL REQUIREMENTS

- a. Hot work Requirements: The contractor shall comply with the following hot work requirements and the requirements of the International Fire Code and NFPA 51B.
  - (1) Hot work shall be defined as any work involving burning, welding, grinding, cutting, or similar operations that are capable of producing sparks, initiating fires or explosions.
  - (2) The Contractor shall utilize the hot work permit decision tree and permit provided in NFPA 51B for all Hot Work operations.
  - (3) A University of Missouri Hot Work Permit (see Appendix 1.I) shall be used on all hot work performed outside a designated hot work area. The University of Missouri hot work permit shall be posted and clearly visible within proximity of the hot work area. The hot work permit authorizing individual (PAI) shall be as designated by the Contractor.
  - (4) Notify the Owner's Representative 24 hours prior to starting hot work in buildings with operational fire alarm or fire suppression systems. The Owner's Representative will coordinate the appropriate system outage with Campus Maintenance personnel.
  - (5) Unless otherwise instructed by the Owner's Representative, the Contractor shall post a copy of each completed hot work permit to the Owner's project management file system the following business day.
  - (6) Hot Work personnel shall consist of the following three roles: the Permit Authorizing Individual (PAI), the Hot Work Operator (person doing the work), and the Fire Watch personnel. Hot Work Operators shall not be utilized to

perform Fire Watch duties. Fire watch and monitoring duration shall be as required on the University of Missouri hot work permit.

20. GENERAL REQUIREMENTS FOR CRANE AND HOISTING OPERATIONS

- a. All crane and hoisting operations shall be performed in compliance with OSHA 29 CFR 1926. All Operators, riggers, and signal persons must have the proper qualifications and training necessary to perform the intended hoisting activities for this project.
- b. Only fully certified and evaluated Operators shall perform equipment operations. Operators in an “Operator in Training” status shall not be used.
- c. Submittal requirements:
  - (1) Submit copies of Operator certifications, licenses, and evaluations to the Owners Representative.
  - (2) Submit Rigger and Signal Person qualifications to the Owners Representative.
  - (3) Unless otherwise directed by the Owners Representative, submit a lift plan, and conduct a lift coordination meeting for hoisting or crane operations for any lift greater than 2,000 pounds, or for any multi pick lift. Include protective measures for existing underground utilities, occupied buildings, pedestrian and vehicle pathways, adjacent buildings, and overhead power lines. If the lift is to occur over an occupied building, provide a registered structural engineer’s review and verification that the building can resist the impact of a dropped load for the intended lift. If evacuation of an occupied building is necessary to conduct the lift, the decision for building evacuation or scheduling the lift for off-hours will be determined by the Owner.

21. CONSTRUCTION WASTE MANAGEMENT (for projects without a Division 02 specification)

- a. The goal of Construction Waste Management is to divert waste from the sanitary landfill. This shall be accomplished through reuse, recycling and/or salvage of non-hazardous construction and demolition debris to the greatest extent practical. Track and report all efforts related to reuse, recycling and/or salvage materials from the project (including clean fill material). Report all material types and weights, where material was diverted, type of diversion, documentation of diversion (waste or recycling tickets), and applicable dates. In order to calculate the diversion percentage, total weights of all non-hazardous landfill material must be reported. This information shall be updated monthly utilizing the [Construction Waste Management Worksheet](#). Copies of all applicable receipts, tickets and tracking logs shall be uploaded to the Owner’s information sharing website or reported as required by the Construction Project Manager.
- b. A summary worksheet is required prior to substantial completion.

22. WARRANTY WALKTHROUGH

- a. Contractor shall attend a walk-thru with the Owner at 11 months after acceptance to review and document any warranty items to be addressed as part of the twelve (12) month warranty stated in article 3.1 of the General Conditions.

**END OF SECTION**



SECTION 1.E.1

UNIVERSITY OF MISSOURI  
ROOF SYSTEM MANUFACTURER CERTIFICATION  
(Revised 06/24)

TO: \_\_\_\_\_

Title: Various Locations – Roof Replacement

Project No. CP252841  
Location: Columbia - Power Plant

Our technical staff has examined the Architect/Engineer's Drawings, Specifications and required warranty for the roofing work on this project. We do not wholly endorse the building design or any materials or services not part of our advertised roofing system.

CERTIFICATION

We hereby certify that:

1. All materials we will furnish and deliver to the project shall be of good merchantable quality, shall meet or exceed the Specifications required and shall, if properly applied by one of our approved roofing applicator firms in accord with our instructions, provide a sound weather/watertight roofing system.
2. Upon completion of the installation in accord with the Drawings and specifications and our recommended installation procedures, we shall issue a total system warranty specified in the project Specifications.
3. The Drawings and Specifications follow the recommendations of our roofing manual for this type of roofing system with:

No exceptions.

The following exceptions: (The roofing system will be approved for this project if the following changes are made to the Contract Documents. The bid provided with this Document includes the required changes).

NOTE: Exceptions may cause Owner to reject bid.  
Exceptions are as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. The Warranty will be issued for the following proposed roofing system:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ROOFING SYSTEM MANUFACTURER: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

Title: \_\_\_\_\_ Date \_\_\_\_\_

Telephone Number: ( ) \_\_\_\_\_

Fax Number: ( ) \_\_\_\_\_

## SECTION 1.E.2

### UNIVERSITY OF MISSOURI CONTRACTOR'S ROOFING/FLASHING/SHEET METAL GUARANTEE (Revised 06/24)

WHEREAS (NAME AND ADDRESS OF COMPANY)

herein referred to as Roofing Contractor, certify that they have furnished and installed all roofing, flashing, sheet metal and related components in accordance with the Contract Documents and as required by the Roofing System Manufacturer's installation instructions on the facility described below:

Facility: \_\_\_\_\_

Owner: University of Missouri-(CAMPUS)  
(CAMPUS ADDRESS)

Date of Full Completion: \_\_\_\_\_

Approximate Area of Roof: \_\_\_\_\_

Type of Roofing Material: \_\_\_\_\_

Manufacturer's Specification Number: \_\_\_\_\_

Thickness and Type of Roof Insulation: \_\_\_\_\_

NOW, THEREFORE, Roofing Contractor guaranties to the Owner, subject only to the exclusions stated hereinafter, that all roofing, flashing and sheet metal work is fully and integrally watertight and is free from faults and defects in material or workmanship, and is guaranteed for a period of three (3) years from date of full completion of work.

EXCLUSIONS: This guarantee does not cover, and Roofing Contractor shall not be liable for the following:

1. Damage to the roofing system caused by fire, lightning, tornado, hurricane or hailstorm.
2. Damage to roofing system caused by significant settlement, distortion or failure of roof deck, walls, or foundations of building, excepting normal building expansion and contraction is not a part of this exclusion.
3. Abuse by the Owner and/or third parties.

REPAIRS: Owner shall promptly notify Roofing Contractor, in writing, of the need for repair of roofing, flashing, or sheet metal:

1. Roofing Contractor, within eight (8) hours after receipt of such notice, shall make emergency repairs at its expense, as required to render the facility watertight.
2. Within five (5) days after receipt of such notice, Roofing Contractor shall at its expense correct any faults or defects in material or workmanship.
3. Should needed repairs not be covered by this guarantee, Roofing Contractor, after having obtained Owner's written consent, shall make such repairs at Owner's expense. Following said repairs, this guarantee shall thereafter remain in effect for the unexpired portion of the original term. If Owner does not so consent or repairs are made by others than the Roofing Contractor, this guarantee shall terminate for those parts of the roof

affected by the repair.

4. In the event that Owner has notified the Roofing Contractor of the need for repairs and (i) Roofing Contractor does not immediately make repairs, or (ii) Roofing Contractor disclaims responsibility for the repairs and Owner disagrees, or (iii) Owner considers Roofing Contractor=s quoted cost for repairs not covered by this guarantee to be unreasonable and, an emergency condition exists which requires prompt repair to avoid substantial damage or loss to Owner, then, Owner may make such temporary repairs as he finds necessary and such action shall not be a breach of the provisions of this guarantee.

ANNUAL INSPECTIONS: Roofing Contractor shall inspect roof installation prior to each of the three anniversary dates from date of full completion of the work.

1. Inspection team to include Roofing Contractor, Roof Manufacturer, and Owner=s Representative.
2. Inspection of total roof system will be included in the annual inspections.
3. All defects in total roof system will be corrected by the Roofing Contractor within 30 days of inspection.
4. Roof manufacturer will certify by a written report that roof inspection has been completed, defects are acknowledged, and will warrant any repairs.
5. All corrective work completed by Roofing Contractor shall be warranted as approved by the Roofing Manufacturer.

ROOF MODIFICATION: Should Owner require work to be done on roof of said facility including modifications, alternations, extensions or additions to roof and including installation of vents, platforms, equipment, bracings or fastenings, Owner shall notify Roofing Contractor and give Roofing Contractor an opportunity to make recommendations as to methods necessary to safeguard against damage to roofing covered by this guarantee. Failure of Owner to give Roofing Contractor such opportunity or failure to follow methods recommended by Roofing Contractor shall render this guarantee null and void to the extent such failure should result in damage to roofing covered by this guarantee.

NOTICES: Notification of Roofing Contractor by Owner, shall be fulfilled by sending notice to Roofing Contractor.

IN WITNESS WHEREOF, we set our hands this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

By: \_\_\_\_\_

Title: \_\_\_\_\_

For Roofing Contractor

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

## SHOP DRAWING AND SUBMITTAL LOG

**Project: Various Locations – Roof Replacement**

**Project Number: MU No. CP252841**

**Contractor:**

Section		Submittal No.	Contractor	Action					Remarks	Date Returned	Copies		
				Date Received	#	Date Sent to Consultant	#	Date Returned			Cont'r	Owner	File
05 1200	STRUCTURAL STEEL FRAMING												
	Product Data												
	Shop Drawings												
05 3100	STEEL DECKING												
	Product Data												
	Shop Drawings												
05 4000	COLD-FORMED METAL FRAMING												
	Product Data												
	Shop Drawings												
06 1000	ROUGH CARPENTRY												
	Product Data – Wood Preservative												
07 2700	AIR BARRIERS												
	Product Data												
	Mfr. Installation Instructions												
07 4213	METAL WALL PANELS												
	Product Data												
	Shop Drawings												
	Samples												
	Qualification Statements												
07 5300	ELASTOMERIC MEMBRANE ROOFING												
	Product Data												
	Shop Drawings												
	Mfr. Installation Instructions												
	Mfr. Certifications												
07 6200	SHEET METAL FLASHING AND TRIM												
	Product Data												
	Shop Drawings												
	Samples												
	Sample Finish Warranty												

## SHOP DRAWING AND SUBMITTAL LOG

Section		Submittal No.	Contractor	Action					Remarks	Date Returned	Copies			
				Date Received	#	Date Sent to Consultant	#	Date Returned			Cont'r	Owner	File	
07 9200	JOINT SEALANTS													
	Product Data - Sealants - Type E-1													
	Product Data - Sealants - Type E-2													
	Product Data - Accessory Products													
	Color Cards for Selection													
	Qualification Data - Installer													
	Qualification Data - Manufacturer													
09 9000	PAINTING AND COATING													
	Product Data													
	Samples													
	Certification - VOC limits													
	Maintenance Data													

## CLOSEOUT LOG

**Project:** Various Locations – Roof Replacement

**Project Number:** MU No. CP252841

**Contractor:**

Section	Description	Contractor / Subcontractor	Date Rec/d	# of Copies	CPM Initials	Remarks
GC /3.14	As-built drawings (Field Redlines)					
1.E.1	Roof System Manufacturer Certification					
1.E.2	Contractor's Roofing/Flashing/Sheet Metal Guarantee					
07 5300	Warranty					
07 9200	Warranty					

## SECTION 1.F

### INDEX OF DRAWINGS

Drawings referred to in and accompanying Project Manual consist of following sheets dated November 21, 2025.

#### **CP252841 Various Locations – Roof Replacement**

Sheet	1	of	21	G001	COVER SHEET
Sheet	2	of	21	G002	LOCATION MAP, TRAFFIC CONTROL PLAN, LIST OF DRAWINGS, LEGENDS
Sheet	3	of	21	G003	STAGING PLANS & PROTECTION DETAILS
Sheet	4	of	21	S101	ROOF INFILL PLAN
Sheet	5	of	21	D101	DEMOLITION ROOF PLAN
Sheet	6	of	21	A101	ROOF – KEY PLAN; ALTERNATES
Sheet	7	of	21	A102	ROOF PLAN
Sheet	8	of	21	A301	SECTIONS
Sheet	9	of	21	A302	SECTIONS
Sheet	10	of	21	A303	SECTIONS & DETAILS
Sheet	11	of	21	A501	DETAILS
Sheet	12	of	21	A502	DETAILS
Sheet	13	of	21	A503	DETAILS
Sheet	14	of	21	A504	DETAILS
Sheet	15	of	21	A505	DETAILS
Sheet	16	of	21	A506	DETAILS
Sheet	17	of	21	A701	IMAGES
Sheet	18	of	21	A702	IMAGES
Sheet	19	of	21	A703	IMAGES
Sheet	20	of	21	A704	IMAGES
Sheet	21	of	21	A705	IMAGES

**END OF SECTION**

SECTION 1.G

PREVAILING WAGE RATES

1. The prevailing wage rates for Boone County as issued by the Missouri Division of Labor on the following pages.



# Missouri

## Division of Labor Standards

### WAGE AND HOUR SECTION



MIKE KEHOE, Governor

## Annual Wage Order No. 32

Section 010  
**BOONE COUNTY**

In accordance with Section 290.262 RSMo 2000, within thirty (30) days after a certified copy of this Annual Wage Order has been filed with the Secretary of State as indicated below, any person who may be affected by this Annual Wage Order may object by filing an objection in triplicate with the Labor and Industrial Relations Commission, P.O. Box 599, Jefferson City, MO 65102-0599. Such objections must set forth in writing the specific grounds of objection. Each objection shall certify that a copy has been furnished to the Division of Labor Standards, P.O. Box 449, Jefferson City, MO 65102-0449 pursuant to 8 CSR 20-5.010(1). A certified copy of the Annual Wage Order has been filed with the Secretary of State of Missouri.

Original Signed by

Logan Hobbs, Director  
Division of Labor Standards

Filed With Secretary of State: March 10, 2025

Last Date Objections May Be Filed: April 9, 2025

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	\$61.64
Boilermaker	\$34.21*
Bricklayer-Stone Mason	\$57.33
Carpenter	\$54.00
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	\$47.94
Plasterer	
Communication Technician	\$60.91
Electrician (Inside Wireman)	\$60.73
Electrician Outside Lineman	\$83.75
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	\$34.21*
Glazier	\$57.72
<b>Ironworker</b>	<b>\$72.58</b>
Laborer	\$45.36
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	\$63.31
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	\$67.29
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	\$43.55
Plumber	\$72.49
Pipe Fitter	
Roofer	\$56.44
Sheet Metal Worker	\$58.82
Sprinkler Fitter	\$69.16
Truck Driver	\$34.21*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

\*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. The public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

\*\*The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title as defined in RSMo Section 290.210.

Heavy Construction Rates for  
BOONE County

Section 010

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	\$67.38
Millwright	
Pile Driver	
Electrician (Outside Lineman)	\$83.75
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$53.59
General Laborer	
Skilled Laborer	
Operating Engineer	\$69.61
Group I	
Group II	
Group III	
Group IV	
Truck Driver	\$34.21*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

Use Heavy Construction Rates on Highway and Heavy construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(3).

Use Building Construction Rates on Building construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(2).

If a worker is performing work on a heavy construction project within an occupational title that is not listed on the Heavy Construction Rate Sheet, use the rate for that occupational title as shown on the Building Construction Rate Sheet.

\*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. Public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

\*\*The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title.

# OVERTIME and HOLIDAYS

## OVERTIME

For all work performed on a Sunday or a holiday, not less than twice (2x) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work.

For all overtime work performed, not less than one and one-half (1½) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work or contractual obligation. For purposes of this subdivision, **"overtime work"** shall include work that exceeds ten hours in one day and work in excess of forty hours in one calendar week; and

A thirty-minute lunch period on each calendar day shall be allowed for each worker on a public works project, provided that such time shall not be considered as time worked.

## HOLIDAYS

January first;  
The last Monday in May;  
July fourth;  
The first Monday in September;  
November eleventh;  
The fourth Thursday in November; and  
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

## SECTION 1.H

### ALTERNATES

Base Bid may be increased in accordance with following Additive Alternate proposal(s) as Owner may elect:

1. Additive Alternate No. 1: Remove and replace the existing wood decking over the east section of the 1923 Building; this area is identified in the drawings as “Alternate 1”.
  - a. Remove existing wood decking and blocking to expose steel purlins.
  - b. Remove any corrosion on top surface of steel purlins.
  - c. Remove existing single layer of gypsum board cladding at inside face of wood decking.
  - d. Install new metal decking on top of steel purlins; see structural drawings for decking and attachment notes.
  - e. Install rigid insulation to match depth of removed wood decking.
  
2. Additive Alternate No. 2: Remove and replace the existing wood decking over the west section of the 1923 Building; this area is identified in the drawings as “Alternate 2”.
  - a. Remove existing wood decking and blocking to expose steel purlins.
  - b. Remove any corrosion on top surface of steel purlins.
  - c. Install new metal decking on top of steel purlins; see structural drawings for decking and attachment notes.
  - d. Install rigid insulation to match depth of removed wood decking.

## SECTION 1.1

### UNIVERSITY OF MISSOURI HOT WORK PERMIT

#### University of Missouri HOT WORK PERMIT

Seek an alternative/safer method if possible

Before initiating hot work, ensure precautions are in place as required by NFPA 51B and ANSI Z49.1.  
Make sure an appropriate fire extinguisher is readily available.

This Hot Work Permit is required for any operation involving open flame or producing heat and/or sparks. This work includes, but is not limited to, welding, brazing, cutting, grinding, soldering, thawing pipe, torch applied roofing, or chemical welding.

Date	Hot Work by: Employee <input type="checkbox"/> Contractor <input type="checkbox"/>
Location / Building / Floor / Room #:	Name (Print) and Signature of person doing Hot Work
Work to be performed:	I verify that the above location has been examined, the precautions marked on the checklist below have been taken, and permission is granted for this work.
Time Started _____ Time Completed _____	<b>Signature</b> _____ Name (print) and signature of permit-authorizing individual (PAI)
Time Fire Watch Completed _____	<b>Signature</b> _____ Name (print) and signature of person performing Fire Watch
<b>THIS PERMIT IS GOOD FOR ONE DAY ONLY</b>	

Yes	N/A	
<input type="checkbox"/>	<input type="checkbox"/>	Available sprinklers, hose streams, and extinguishers are in service and operable.
<input type="checkbox"/>	<input type="checkbox"/>	Hot Work equipment is in good working condition in accordance with manufacturer's specifications.
<input type="checkbox"/>	<input type="checkbox"/>	Special permission obtained to conduct hot work on metal vessels or piping lined with rubber or plastic.
<b>Requirements within 35 ft (11 m) of hot work</b>		
<input type="checkbox"/>	<input type="checkbox"/>	Flammable liquid, dust, lint and oily deposits removed.
<input type="checkbox"/>	<input type="checkbox"/>	Explosive atmosphere in area eliminated.
<input type="checkbox"/>	<input type="checkbox"/>	Floors swept clean and trash removed.
<input type="checkbox"/>	<input type="checkbox"/>	Combustible floors wet down or covered with damp sand or fire-resistant / noncombustible materials or equivalent.
<input type="checkbox"/>	<input type="checkbox"/>	Personnel protected from electrical shock when floors are wet.
<input type="checkbox"/>	<input type="checkbox"/>	Other combustible storage material removed or covered with listed or approved materials (welding pads, blankets, curtains, fire-resistant tarpsaulins), metal shields, or non-combustible material.
<input type="checkbox"/>	<input type="checkbox"/>	All wall and floor openings are covered.
<input type="checkbox"/>	<input type="checkbox"/>	Ducts and conveyors that might carry sparks to distant combustible material are covered, protected, or shut down.
<b>Requirements for hot work on walls, ceilings or roofs</b>		
<input type="checkbox"/>	<input type="checkbox"/>	Construction is noncombustible and without combustible coverings or insulation.
<input type="checkbox"/>	<input type="checkbox"/>	Combustible material on other side of walls, ceilings, or roofs is moved away.

Yes N/A

**Requirements for hot work on enclosed equipment**

- ☐ ☐ Enclosed equipment is cleaned of all combustibles.
- ☐ ☐ Containers are purged of flammable liquid / vapor.
- ☐ ☐ Pressurized vessels, piping, and equipment removed from service, isolated, and vented.

**Requirements for hot work fire watch and fire monitoring**

- ☐ ☐ Fire watch is provided with suitable extinguishers and, where practical, a charged fire hose.
- ☐ ☐ Fire watch is trained in use of equipment, sounding alarm, and notification of emergency contacts.
- ☐ ☐ Fire watch is required in adjoining areas, or above and below the work area.
- ☐ ☐ Per the PAI / fire watch, monitoring of hot work area is required, per the table below.

**Construction Factors**

	Noncombustible construction		Combustible construction without concealed cavities		Combustible Construction with unprotected concealed cavities	
Occupancy Factors	Fire Watch	Monitor	Fire Watch	Monitor	Fire Watch	Monitor
Noncombustible with any combustibles contained within closed equipment (e.g., ignitable liquid within piping)	30 minutes	0 hours	1 hour	3 hours	1 hour	5 hours
Office, retail or manufacturing with limited combustible loading	1 hour	1 hour	1 hour	3 hours	1 hour	5 hours

**POST A COPY OF THIS PERMIT IN/NEAR THE HOT WORK AREA.**

**Admin:** University employees shall file hot work permits in departmental safety file records.

Contract personnel shall file copies of permits in the University of Missouri Project Management File System.

**END OF SECTION**

**SECTION 01 4533**  
**CODE-REQUIRED SPECIAL INSPECTIONS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Code-required special inspections.
- B. Testing services incidental to special inspections.

**1.02 DEFINITIONS**

- A. Code or Building Code: ICC (IBC), 2024 Edition of the International Building Code and specifically, Chapter 17 - Special Inspections and Tests.
- B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.
- C. National Institute of Standards and Technology (NIST).
- D. Special Inspection:
  - 1. Special inspections are inspections and testing of materials, installation, fabrication, erection or placement of components and connections mandated by the AHJ that also require special expertise to ensure compliance with the approved contract documents and the referenced standards. **Drawings and specifications indicate special inspections required for the contract.**
  - 2. Special inspections are separate from and independent of tests and inspections conducted by Owner or Contractor for the purposes of quality assurance and contract administration.

**1.03 TESTING AND INSPECTION AGENCIES**

- A. The Owner will employ a Special Inspection Agency to perform testing and sampling associated with special inspections and as required by the building code
- B. Owner or Architect may employ services of an independent testing agency to perform additional testing and sampling associated with special inspections but not required by the building code.

**1.04 QUALITY ASSURANCE**

- A. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 SPECIAL INSPECTIONS AND TESTING**

- A. The Code requires special inspections and testing of certain materials, components, assemblies, and connections used in constructing the project. Special inspections and testing will be performed in accordance with the Code.
- B. Frequency of Special Inspections: Special Inspections are indicated as continuous or periodic.
  - 1. Continuous Special Inspection: Special Inspection Agency shall be present in the area where the work is being performed and observe the work at all times the work is in progress.
  - 2. Periodic Special Inspection: Special Inspection Agency shall be present in the area where work is being performed and observe the work part-time or intermittently and at the completion of the work.
- C. Special inspections and testing will be performed in accordance with the Code for the following materials and project components:
  - 1. Steel.
  - 2. Structural observations required by ICC (IBC) section 1704.6.
  - 3. Special cases as determined by building official and required by ICC (IBC) section 1705.1.



### **3.02 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES**

- A. Special Inspection Agency shall:
  - 1. Verify samples submitted by Contractor comply with the referenced standards and the approved Contract Documents.
  - 2. Provide qualified personnel at site. Cooperate with Owner's Representative, Architect, and Contractor in performance of services.
  - 3. Perform specified sampling and testing of products in accordance with specified reference standards.
  - 4. Ascertain compliance of materials and products with requirements of Contract Documents.
  - 5. Promptly notify Owner's Representative, Architect, and Contractor of observed irregularities or non-compliance of work or products.
  - 6. Perform additional tests and inspections required by Architect.
  - 7. Attend progress meetings.
  - 8. Submit reports of all tests or inspections specified.
- B. Limits on Special Inspection Agency Authority:
  - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  - 2. Agency may not approve or accept any portion of the work.
  - 3. Agency may not assume any duties of Contractor.
  - 4. Agency has no authority to stop the work.
- C. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.
- D. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

### **3.03 TESTING AGENCY DUTIES AND RESPONSIBILITIES**

- A. Testing Agency Duties:
  - 1. Test samples submitted by Contractor.
  - 2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
  - 3. Perform specified sampling and testing of products in accordance with specified standards.
  - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  - 5. Promptly notify Architect and Contractor of observed irregularities or non-compliance of work or products.
  - 6. Perform additional tests and inspections required by Architect.
  - 7. Attend progress meetings.
  - 8. Submit reports of all tests or inspections specified.
- B. Limits on Testing or Inspection Agency Authority:
  - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  - 2. Agency may not approve or accept any portion of the work.
  - 3. Agency may not assume any duties of Contractor.
  - 4. Agency has no authority to stop the work.
- C. On instructions by Architect, perform re-testing required because of non-compliance with specified requirements, using the same agency.
- D. Contractor will pay for re-testing required because of non-compliance with specified requirements.

### **3.04 CONTRACTOR DUTIES AND RESPONSIBILITIES**

- A. Contractor Responsibilities, General:
  - 1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.

2. Cooperate with agency and laboratory personnel; provide access to the work.
3. Provide incidental labor and facilities:
  - a. To provide access to work to be tested or inspected.
  - b. To obtain and handle samples at the site or at source of Products to be tested or inspected.
  - c. To facilitate tests or inspections.
  - d. To provide storage and curing of test samples.
4. Notify Owner's Representative, Architect, and laboratory 24 hours prior to expected time for operations requiring testing or inspection services.
5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

**END OF SECTION**

## **SECTION 02 4100 DEMOLITION**

### **PART 1 GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Selective demolition of building elements for alteration purposes.

#### **1.02 REFERENCE STANDARDS**

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2019.

#### **1.03 SUBMITTALS**

- A. See Division One for submittal procedures.
- B. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction and site improvements. Include finish surfaces and other items that might be misconstrued as damage caused by demolition operations.

#### **1.04 QUALITY ASSURANCE**

- A. Demolition Firm Qualifications: Company specializing in the type of work required.
  - 1. Minimum of five years of documented experience.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

### **PART 2 PRODUCTS -- NOT USED**

### **PART 3 EXECUTION**

#### **3.01 SCOPE**

- A. Remove the entire portion of building designated on drawings..

#### **3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS**

- A. Comply with all requirements specified in Division One.
- B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
  - 1. Obtain required permits.
  - 2. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
  - 3. Maintain fire watch during and for at least 24 hours after flame-cutting operations.
  - 4. Maintain adequate ventilation when using cutting torches.
  - 5. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  - 6. University has a Title V Permit that states that no fugitive particulate matter emissions shall go beyond the premise of origin in the quantities that the particulate matter may be found on surfaces beyond the property line of origin. Conduct demolition operations to comply with University's Title V Permit regulations.
  - 7. Comply with applicable requirements of NFPA 241.
  - 8. Use of explosives is not permitted.
  - 9. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
  - 10. Provide, erect, and maintain temporary barriers and security devices.
  - 11. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.

12. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
  13. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
  14. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
  15. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- C. Do not begin removal until receipt of notification to proceed from Owner.
  - D. Protect existing structures and other elements that are not to be removed.
    1. Provide bracing and shoring.
    2. Prevent movement or settlement of adjacent structures.
    3. Stop work immediately if adjacent structures appear to be in danger.
  - E. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
  - F. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

### **3.03 SELECTIVE DEMOLITION FOR ALTERATIONS**

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
  1. Verify that construction and utility arrangements are as indicated.
  2. Report discrepancies to Architect before disturbing existing installation.
  3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
- C. Remove existing work as indicated and as required to accomplish new work.
  1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction indicated.
  2. Remove items indicated on drawings.
- D. Protect existing work to remain.
  1. Prevent movement of structure; provide shoring and bracing if necessary.
  2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
  3. Repair adjacent construction and finishes damaged during removal work.
  4. Patch as specified for patching new work.

### **3.04 DEBRIS AND WASTE REMOVAL**

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

### **END OF SECTION**

**UNIVERSITY OF MISSOURI  
CLIENT FILE NO.: CP266011/CP252841**

**HAZARDOUS MATERIALS ASSESSMENT**

**POWER PLANT 1923 & 1955 ROOF REPLACEMENT  
415 SOUTH FIFTH STREET  
COLUMBIA, MISSOURI 65201**

**OCTOBER 2025**

PREPARED BY:

*Nick Eilerman*

NICK EILERMAN  
SR. PROJECT MANAGER



**13 EXECUTIVE DRIVE SUITE 14  
FAIRVIEW HEIGHTS, IL 62208  
(217) 216-5955**

J.S. HELD PROJECT No: 250800498

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- F Asbestos Specifications

## 1.0 INTRODUCTION

J.S. Held, LLC (J.S. Held) was retained by University of Missouri to perform an assessment to determine the location and quantities of asbestos, lead and other potential hazardous materials at the roof areas of Power Plant Buildings 1923 and 1955 located at 415 South Fifth Street in Columbia Missouri. The assessment was conducted on August 7, 2025, by J.S. Held LLC asbestos and lead Inspectors. The assessment included a visual survey for environmental hazards, as well as the collection of bulk asbestos samples, the collection of bulk paint chip samples, and the preparation of diagrams locating lead-based paint (LBP) and asbestos- containing materials (ACM). No suspect PCB-containing or other potential hazardous materials were observed.

The asbestos assessment and lead sampling was performed by Missouri-accredited/licensed Asbestos Building Inspector and Lead Risk Assessor Nick Eilerman (accreditation number 7118062025MOIR22394 and 300006693, respectively). A copy of the J.S. Held employee asbestos certificates/licenses are provided in **Appendix A**.

An asbestos bulk analytical results summary table is included in **Table 1**. Photographs collected are included in **Appendix B**. The asbestos bulk laboratory analytical report and chain of custody are included in **Appendix C**. The lead bulk laboratory analytical report and chain of custody are included **Appendix D**. The asbestos and lead sample location diagram is included in **Appendix E**. The asbestos specifications for the removal of asbestos-containing materials is included in **Appendix F**.

## 2.0 PROJECT BACKGROUND

The hazardous material inspection was performed prior to the planned replacement of the roof over the 1923 and 1955 buildings at the University's power plant. It is reported that the existing built-up roof system on the two buildings is well beyond its expected service life and no longer prevents water intrusion.

## 3.0 OBSERVATIONS

The property consists of a power plant located in Columbia Missouri. The project areas of the plant consist of two (1923 & 1955) multi-story industrial buildings constructed of brick and concrete, stone coping on brick, metal framed windows, and metal glass doors. Photographs of the property are included in **Appendix B**.

## 4.0 ASBESTOS BULK SAMPLING

J.S. Held collected bulk samples for asbestos analysis of suspect materials that may be disturbed during renovation activities. The following is a summary of the asbestos sampling standards, sample collection activities and analytical results.

#### 4.1 Asbestos Bulk Sampling Standards

Both the United States Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) regulate the disturbance, removal, handling and/or disposal of asbestos-containing materials (ACM). According to EPA and OSHA, ACM is defined as any material containing more than 1% asbestos. The EPA National Emission Standards for Hazardous Air Pollutants (NESHAP [40 CFR Part 61, Subpart M]) requires a pre-renovation/pre-demolition asbestos inspection by an EPA Asbestos Hazard Emergency Response Act (AHERA [40 CFR Part 763, Subpart E]) accredited Asbestos Building Inspector to identify ACM.

It is impossible to confirm that a material or product is or contains asbestos by visual determination. Actual determinations can only be made by instrumental analysis. The EPA requires that the asbestos content of suspected materials be determined by collecting bulk samples and analyzing them by polarized light microscopy (PLM). The PLM method (EPA 600/R-93/116) determines both the percent and type of asbestos in the bulk samples. When a sample contains several layers, such as roofing materials, flooring and mastic, or drywall and joint compound, the layers are split and analyzed for asbestos separately. The PLM method has a laboratory reporting limit of 1% asbestos, and thus cannot verify asbestos concentrations of <1%. According to 40 CFR 61.141 Subpart M, where friable asbestos materials are determined to contain less than 10% asbestos by PLM, asbestos content can be verified by point counting using PLM or assumed to be greater than 1%.

The OSHA Asbestos Standard for the Construction Industry (29 CFR 1926.1101) requires the identification of ACM in the work place and worker protection for disturbance of materials containing any detectable concentration of asbestos (including  $\leq 1\%$ ). Additionally, according to OSHA 29 CFR 1926.1101, certain building materials installed prior to 1981 are presumed asbestos-containing materials (PACM) unless bulk sample PLM analysis determines them to be non-ACM.

The condition of any suspect asbestos containing materials (SACM) or PACM observed within the property is also evaluated by the inspector to determine friability in accordance with the EPA NESHAP and AHERA. Friable ACM is defined by the EPA as ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable ACM is defined by the EPA as ACM that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable ACM is further classified as Category I nonfriable ACM or Category II nonfriable ACM, depending on their potential to release fibers when damaged. Regulated Asbestos-Containing Material (RACM) is defined as friable ACM, Category I nonfriable ACM that has become friable; Category I nonfriable ACM that has been or will be sanded, ground, cut, or abraded; and Category II nonfriable ACM that has already been or is likely to become crumbled, pulverized, or reduced to powder. If a certain threshold amount of RACM is identified in a renovation or demolition operation, then all friable ACM in the operation, and in certain situations, nonfriable ACM in the operation, are subject to the NESHAP, as well as all other local or state regulations.



## 4.2 Asbestos Bulk Sample Collection

J.S. Held inspected the property for the presence of SACM and PACM that may be disturbed by remediation activities. J.S. Held identified seven (7) homogenous areas of SACM/PACM at the property and collected a total of twenty-three (23) samples for analysis of asbestos content in accordance with federal, state, and local regulations. Samples collected were photo documented, marked on a sample location diagram, and logged on the laboratory chain of custody. Materials determined to be homogeneous were marked as such on the laboratory chain of custody. J.S. Held also identified the condition of the materials sampled at the time of the assessment. SACM observed throughout the property are as follows:

### Overall - Exterior

- Original Built Up Roofing
- Newer Built-Up Roofing
- Black Mastic at Penetrations
- Flashing at Parapet Walls and Curbs
- Tan Caulk at Brick Stack
- Debris Pile/Mastic from Brick Finishes
- Gray Caulk

## 4.3 Asbestos Bulk Sample Laboratory Analysis

The samples were submitted to Scientific Analytical Institute (SAI) in Greensboro, North Carolina for analysis. SAI is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP # 200664-0) for PLM analysis. Samples were analyzed by EPA/600/R-93/116 for Polarized Light Microscopy (PLM) and split into layers, yielding a total of thirty-one (31) analytical results. Once homogeneous materials were determined to be greater than 1% by PLM, additional analysis of samples from that homogenous material were stopped. A total of one (1) sample was determined to be Asbestos-Containing Material (ACM), with an asbestos concentration of 4% Chrysotile.

## 4.4 Asbestos Bulk Sample Laboratory Analytical Results

The analytical results indicate that the asbestos concentration is greater than 1% in the following sampled materials:

- Samples HA6-1 through HA6-3: Debris Pile – Mastic from Brick

An asbestos bulk analytical results summary is included in **Table 1**. The asbestos bulk laboratory report and chain of custody are included in **Appendix C**, and the asbestos bulk sample location diagram is provided in **Appendix D**.

#### 4.5 Asbestos Bulk Sampling Conclusions

J.S. Held performed an asbestos assessment between August 7, 2025, by accredited inspectors. Based on the assessment, samples HA6-1 through HA6-3 were identified to contain asbestos or are assumed to contain asbestos, as described above. Conclusions specific to categories of asbestos are as follows:

- ACM that is considered to be Category I nonfriable and non-regulated ACM includes the debris pile/mastic from brick on the exterior of building 1923.
- The elevated portions of Building 1955 were not accessible via mechanical lift during our inspection due to the narrow corridors on the North side of the building. If the above-mentioned ACM is observed on the window areas of Building 1955, it must be treated as the same ACM identified at the Building 1923 window areas.

#### 5.0 LEAD-BASED PAINT AND MATERIALS CONTAINING LEAD ASSESSMENT

J.S. Held J.S. Held performed a limited assessment to locate lead-based paint (LBP). The following is a summary of the lead sampling standards, sample collection activities and analytical results.

##### 5.1 Lead Paint Testing and Sampling Standards

The Occupational Safety and Health Administration's (OSHA) Lead in Construction Standard (29 CFR 1926.62) regulates worker exposure to lead. EPA's Lead Renovation, Repair and Painting (RRP) Rule, 40 CFR Part 745, Subpart E – Residential Property Renovation, regulates restoration and renovation in housing and child-occupied facilities constructed prior to 1978. EPA's Resource Conservation and Recovery Act (RCRA 40 CFR Part 261) regulates proper disposal of lead-containing waste.

LBP is defined by the EPA as paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter ( $\text{mg}/\text{cm}^2$ ) or 0.5 percent by weight (0.5 %) or 5,000 parts per million (ppm) by weight. OSHA defines lead as metallic lead, all inorganic lead compounds, and organic lead soaps, excluding organic lead compounds. OSHA does not define a quantifiable amount of lead; therefore, any work where an employee may be occupationally exposed to lead is covered by the Lead in Construction Standard.

##### 5.2 Lead Paint Chip Sample Collection

The majority of painted components observed on the roof areas consisted of painted walls or other components that may/may not be disturbed during roof replacement. J.S. Held collected paint chip samples from steel girder and pipes, metal siding, and gray on building. A total of three (3) paint chip samples were collected from the exterior of the

property from August 7<sup>th</sup>, 2025, in accordance with federal, state, and local regulations. Samples collected were marked on a sample location diagram and logged on the laboratory chain of custody.

### **5.3 Lead Paint Testing and Sample Laboratory Analysis**

The paint chip samples were collected and submitted to SAI in Greensboro, North Carolina. SAI is enrolled in the Industrial Hygiene Laboratory Accreditation Program (IHLAP) with Laboratory ID: LAP-173190. Sample were analyzed using Flame Atomic Absorption NIOSH Method 7082 for Lead.

### **5.4 Lead Paint Testing and Sample Laboratory Analytical Results**

Of the three (3) bulk paint chip samples collected, two (2) of the samples were below the limit of detection. One (1) of the samples was determined by the laboratory to be below the threshold for lead-based paint (LBP) of 0.5% but still determined to be lead-containing paint. The lead laboratory analytical report and chain of custody is included in **Appendix E**.

### **5.5 Lead Paint Limitations**

Limitations specific to this inspection of the property include the following:

- Painted components may be present behind existing components. No assumptions have been made for any “hidden” components.
- J.S. Held did not test walls and materials scheduled to be demolished for lead.

### **5.6 Lead Paint Conclusions**

J.S. Held analyzed painted surfaces for LBP from the exterior of the building located at 415 South Fifth Street in Columbia Missouri. Not all exterior components were observed to be painted. Based on the assessment performed by J.S. Held, LBP was confirmed present on limited components outside the building. J.S. Held assumes that all painted plaster, windows and doors; and concrete walls on the exterior of the building contain LBP and should be handled and disposed of accordingly.

The results of J.S. Held’s limited lead assessment detected lead in exceedance of the standard for LBP on painted substrates in the following areas:

- Red metal siding

## 6.0 LIMITATIONS

As with any asbestos inspection, it is possible that a contractor may encounter hidden areas that may contain asbestos but were not accessible at the time of the inspection. J.S. Held should be immediately notified of any additional suspect materials that have not been detailed, so that these materials can be sampled and correctly identified. It should be noted that all quantities are approximate, and that the contractor should verify all approximated quantities. Limitations specific to the inspection of this property include the following:

- J.S. Held's assessment only included exterior building materials and roofing materials of buildings 1923 and 1955.

## 7.0 CONCLUSIONS

J.S. Held was retained by University of Missouri to perform an assessment to determine the location and quantities of asbestos, lead and other potential hazardous materials at the roof areas of Power Plant Buildings 1923 and 1955 located at 415 South Fifth Street in Columbia Missouri. The assessment was conducted on August 7, 2025, by J.S. Held LLC asbestos and lead Inspectors. The assessment included a visual survey for environmental hazards, as well as the collection of bulk asbestos samples, the collection of bulk paint chip samples, and the preparation of diagrams locating LBP and ACM. No suspect PCB-containing or other potential hazardous materials were observed. The asbestos assessment and lead sampling was performed by Missouri-accredited/licensed Asbestos Building Inspector and Lead Risk Assessor Nick Eilerman (accreditation number 7118062025MOIR22394 and 300006693, respectively).

Based on a review of laboratory results and observations by J.S. Held's inspectors, conclusions specific to categories of asbestos are as follows:

- ACM that is considered to be Category I nonfriable and non-regulated ACM includes the debris pile/mastic from brick on the exterior of building 1923.
- The results of J.S. Held's limited lead assessment detected lead in exceedance of the standard for LBP on painted substrates on the red metal siding.

J.S. Held provides the following recommendations regarding the asbestos bulk sample results:

- If additional suspect materials that were not accessible during this inspection are found during or prior to remediation or demolition, additional sampling shall be performed by a Missouri licensed Asbestos Inspector.
- Any Category I ACM that is in poor condition should be abated.
- All other ACM can either be removed from the property during renovation activities or be managed in place.
- All abatement or removal of ACM shall be performed in accordance with prevailing local, state and federal asbestos regulations.

- J.S. Held can provide specifications for asbestos abatement by a MDNR-accredited Asbestos Project Designer upon request.
- As-built drawings should be utilized to identify asbestos throughout the building. Asbestos location diagrams provided by J.S. Held with this report are general and only include approximate locations of ACM as marked on in field drawings.
- J.S. Held recommends that if ACM is left in place, an Operations and Maintenance plan should be developed by a Missouri accredited Asbestos Management Planner.

The purpose of the work is to renovate the exterior of the property at 415 South Fifth Street in Columbia Missouri. Any work that disturbs LBP, regardless of the intent of the occupancy, shall be performed in accordance with the OSHA Lead in Construction Standard (29 CFR 1926.62). All debris containing lead must be disposed of according to prevailing federal, state and local regulations. Following successful cleaning verification for renovation activities under the RRP Program, and following completion of build-back and cleaning, J.S. Held recommends the collection of lead dust wipe samples prior to occupancy. General recommendations for the property are as follows:

- Any additional areas or components within the property that were not observed by J.S. Held or identified in this report should be considered to contain lead until further testing can be safely conducted.
- J.S. Held recommends that an exposure assessment be performed for renovation activities that disturb painted components for compliance with OSHA 29 CFR 1926.62 Construction in Lead Standard.
- The contractor is responsible for proper disposal based on the waste categorization.

## TABLES

## **TABLE 1**

### **ASBESTOS BULK ANALYTICAL RESULTS SUMMARY**

**TABLE 1**  
**ASBESTOS ANALYTICAL SAMPLE SUMMARY**  
**Power Plant 1923 and 1955 Roof Replacement**  
**415 South Fifth Street**  
**Columbia, Missouri 65201**

Sample Number	Homogenous Area	Sample Location	Sample Description	Collection Date	Test	Classification	Total Asbestos	Asbestos Type
HA1-1	1	1923 Building	Original Gray Built Up Roofing	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA1-2	1	1923 Building	Original Gray Built Up Roofing	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA1-3	1	1923 Building	Original Gray Built Up Roofing	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA1-4	1	1923 Building	Original Gray Built Up Roofing	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA1-5	1	1955 Building	Original Gray Built Up Roofing	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA2-1	2	1955 Building	Newer Grey Built Up Roofing	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA2-2	2	1923 Building	Newer Grey Built Up Roofing	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA2-3	2	1923 Building	Newer Grey Built Up Roofing	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA3-1	3	1923 Building	Black Mastic at Penetrations	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA3-2	3	1923 Building	Black Mastic at Penetrations	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA3-3	3	1955 Building	Black Mastic at Penetrations	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA4-1	4	1923 Building	Flashing at Parapet Walls and Curbs	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA4-2	4	1955 Building	Flashing at Parapet Walls and Curbs	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA4-3	4	1923 Building	Flashing at Parapet Walls and Curbs	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA5-1	5	1923 Building	Tan Caulk at Brick Stack	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA5-2	5	1923 Building	Tan Caulk at Brick Stack	8/7/2025	8/13/2025	NON ACM	N/A	None Detected



**TABLE 1**  
**ASBESTOS ANALYTICAL SAMPLE SUMMARY**  
**Power Plant 1923 and 1955 Roof Replacement**  
**415 South Fifth Street**  
**Columbia, Missouri 65201**

Sample Number	Homogenous Area	Sample Location	Sample Description	Collection Date	Test	Classification	Total Asbestos	Asbestos Type
HA5-3	5	1923 Building	Tan Caulk at Brick Stack	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA6-1	6	1923 Building	Debris Pile/Mastic from Brick	8/7/2025	8/13/2025	ACM	4%	Chrysotile
HA6-2	6	1923 Building	Debris Pile/Mastic from Brick	8/7/2025		Not Analyzed - Stop First Positive Methodology		
HA6-3	6	1923 Building	Debris Pile/Mastic from Brick	8/7/2025		Not Analyzed - Stop First Positive Methodology		
HA7-1	7	1955 Building	Gray Caulk	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA7-2	7	1923 Building	Gray Caulk	8/7/2025	8/13/2025	NON ACM	N/A	None Detected
HA7-3	7	1923 Building	Gray Caulk	8/7/2025	8/13/2025	NON ACM	N/A	None Detected

## APPENDICES

## **APPENDIX A**

### **J.S. HELD EMPLOYEE CREDENTIALS**



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

Mike Kehoe  
Governor

Kurt U. Schaefer  
Director

July 24, 2025

Nicholas P Eilerman  
173 Henning Dr.  
Chesterfield, MO 63017

**RE: Missouri Asbestos Occupation Certification Card**

Enclosed is your certification card for Asbestos Inspector, as issued by the Asbestos Unit of the Missouri Department of Natural Resources' Air Pollution Control Program.

Missouri Certification Number: 7118062025MOIR22394  
Course Training Date: June 20, 2025  
Missouri Certification Approval Date: July 24, 2025  
Missouri Certification Expiration Date: June 20, 2026

**Note:**

- All Missouri-certified asbestos personnel must comply with the following statutes and regulations:
  - Sections 643.225 to 643.250, RSMo;
  - 10 CSR 10-6.241 *Asbestos Projects-Registration, Abatement, Notification, Inspection, Demolition, and Performance Requirements; and*
  - 10 CSR 10-6.250 *Asbestos Projects-Certification, Accreditation and Business Exemption Requirements.*
- To keep your occupation certification up-to-date, you must complete an annual refresher course and submit a renewal application each year.
- In order to be eligible to renew your certification, you must successfully complete a refresher course with a Missouri-accredited training provider within 12 months of the expiration date of your current training certificate. If you exceed this grace period, you will be required to retake a Missouri-accredited initial course in order to be eligible for Missouri certification.

To obtain a copy of the certification renewal application, or review regulations and requirements, please visit our website at <http://dnr.mo.gov/env/apcp/asbestos/index.htm>.

If you have any questions please call the Air Pollution Control Program at 573-751-4817.

**AIR POLLUTION CONTROL PROGRAM**

Director of Air Pollution Control Program



CERTIFICATION NUMBER:

**7118062025MOIR22394**

THIS CERTIFIES

**Nicholas P Eilerman**

HAS COMPLETED THE CERTIFICATION

REQUIREMENTS FOR

**Inspector**



APPROVED: **07/24/2025**

EXPIRES: **06/20/2026**

TRAINING DATE: **06/20/2025**

  
Director of Air Pollution Control Program

**STATE OF MISSOURI**  
**DEPARTMENT OF HEALTH AND SENIOR SERVICES**

**LEAD OCCUPATION LICENSE REGISTRATION**

Issued to:

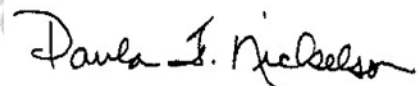
**Nicholas Eilerman**

The person, firm or corporation whose name appears on this certificate has fulfilled the requirements for licensure as set forth in the Missouri Revised Statutes 701.300-701.338, as long as not suspended or revoked, and is hereby authorized to engage in the activity listed below.

**Risk Assessor**

Category of License

Issuance Date:	<b>6/20/2024</b>
Expiration Date:	<b>6/20/2026</b>
License Number:	<b>300006693</b>



Paula F. Nickelson  
Director  
Department of Health and Senior Services

## **APPENDIX B**

### **REPRESNTATIVE PHOTOGRAPHS**





**Figure (1)** – Asbestos Bulk Sample HA1-1 – Original Gray Built Up Roofing.



**Figure (2)** – Asbestos Bulk Sample HA1-2 – Original Gray Built Up Roofing.



**Figure (3)** – Asbestos Bulk Sample HA1-3 – Original Gray Built Up Roofing.



**Figure (4)** – Asbestos Bulk Sample HA1-4 – Original Gray Built Up Roofing.



**Figure (5)** – Asbestos Bulk Sample HA1-5 – Original Gray Built Up Roofing (wet).



**Figure (6)** – Asbestos Bulk Sample HA2-1 – Newer Gray Built Up Roofing.





**Figure (7)** – Asbestos Bulk Sample HA2-2 – Newer Gray Built Up Roofing.



**Figure (8)** – Asbestos Bulk Sample HA2-3 – Newer Gray Built Up Roofing.



**Figure (9)** – Asbestos Bulk Sample HA3-1 – Black Mastic at Penetrations.



**Figure (10)** – Asbestos Bulk Sample HA3-2 – Black Mastic at Penetrations.



**Figure (11)** – Asbestos Bulk Sample HSA3-3 – Black Mastic at Penetrations.



**Figure (12)** – Asbestos Bulk Sample HA4-1 – Flashing at Parapet Walls and Curbs.





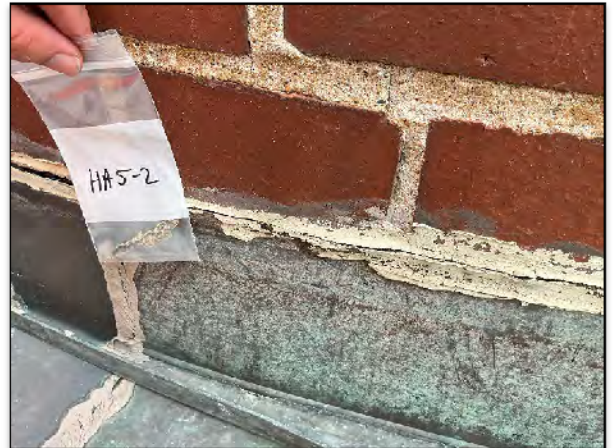
**Figure (13)** – Asbestos Bulk Sample HA4-2 – Flashing at Parapet Walls and Curbs.



**Figure (14)** – Asbestos Bulk Sample HA4-3 – Flashing at Parapet Walls and Curbs.



**Figure (15)** – Asbestos Bulk Sample HA5-1 – Tan Caulk at Brick Stack.



**Figure (16)** – Asbestos Bulk Sample HA5-2 – Tan Caulk at Brick Stack.



**Figure (17)** – Asbestos Bulk Sample HA5-3 – Tan Caulk at Brick Stack.



**Figure (18)** – Asbestos Bulk Sample HA6-1 – ACM Mastic from brick parapet wall at Northeast corner of c1920s Building.





**Figure (19)** – ACM mastic along east parapet wall of c1920s Building.



**Figure (20)** – Asbestos Bulk Sample HA6-2 – ACM Mastic from debris pile along East parapet wall of c1920s Building.



**Figure (21)** – ACM debris along Southeast parapet wall of c1920s Building.



**Figure (22)** – Asbestos Bulk Sample HA6-3 – ACM Mastic from debris pile along Southeast parapet wall of c1920s Building.



**Figure (23)** – Asbestos Bulk Sample HA7-1 – Gray Caulk at Penetrations.



**Figure (24)** – Asbestos Bulk Sample HA7-2 – Gray Caulk at Penetrations.





**Figure (25)** – Asbestos Bulk Sample HA7-3 – Gray Caulk at Penetrations.



**Figure (26)** – Lead Bulk Sample PB-1 – Steel Girder and Pipes.



**Figure (27)** – Lead Bulk Sample PB-2 – Lead-Based Paint on Red Metal Siding.



**Figure (28)** – Red Metal Shed with Lead-Based Paint.



**Figure (29)** – Lead Bulk Sample PB-3 – Gray on building.

## **APPENDIX C**

# **ASBESTOS BULK LABORATORY ANALYTICAL REPORT AND CHAIN OF CUSTODY**



# Bulk Asbestos Analysis

By Polarized Light Microscopy  
EPA Method: 600/R-93/116 and  
40 CFR, Part 763, Subpart E, App.E



**Customer:** J.S. Held  
13 Executive Dr, Suite 14  
Fairview Heights, IL 62208

**Attn:** Jeffry Faust

**Lab Order ID:** 10089106

**Analysis:** PLM

**Date Received:** 08/08/2025

**Date Reported:** 08/13/2025

**Project:** 250800498 UMCOLUMBIA

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
HA1-1	Original Gray BUR	None Detected	5% Fiber Glass	95% Other	White, Gray Non-Fibrous Heterogeneous
10089106_0001	built up roofing				Crushed, Dissolved
HA1-2	Original Gray BUR	None Detected	5% Fiber Glass	95% Other	Gray, Black Non-Fibrous Heterogeneous
10089106_0002	built up roofing				Dissolved, Crushed
HA1-3	Original Gray BUR	None Detected	5% Fiber Glass	95% Other	Gray, Black Non-Fibrous Heterogeneous
10089106_0003	built up roofing				Dissolved, Crushed
HA1-4 - A	Original Gray BUR	None Detected	5% Fiber Glass	95% Other	Gray, Black Non-Fibrous Heterogeneous
10089106_0004	built up roofing				Dissolved, Crushed
HA1-4 - B	Original Gray BUR	None Detected	98% Cellulose	2% Other	Brown Fibrous Homogeneous
10089106_0024	insulation				Teased
HA1-5	Original Gray BUR	None Detected	5% Fiber Glass	95% Other	Gray, Black Non-Fibrous Heterogeneous
10089106_0005	built up roofing				Dissolved, Crushed
HA2-1 - A	Newer Gray BUR	None Detected	5% Fiber Glass	95% Other	Gray, Black Non-Fibrous Heterogeneous
10089106_0006	built up roofing				Dissolved, Crushed
HA2-1 - B	Newer Gray BUR	None Detected	80% Cellulose	10% Other 10% Perlite	Brown Fibrous Homogeneous
10089106_0025	insulation				Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Katelyn Stewart (31)

Analyst

*Nathaniel Durham*

Approved Signatory



# Bulk Asbestos Analysis

By Polarized Light Microscopy  
EPA Method: 600/R-93/116 and  
40 CFR, Part 763, Subpart E, App.E



**Customer:** J.S. Held  
13 Executive Dr, Suite 14  
Fairview Heights, IL 62208

**Attn:** Jeffry Faust

**Lab Order ID:** 10089106

**Analysis:** PLM

**Date Received:** 08/08/2025

**Date Reported:** 08/13/2025

**Project:** 250800498 UMCOLUMBIA

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
HA2-2 - A	Newer Gray BUR	None Detected	5% Fiber Glass	95% Other	Gray, Black Non-Fibrous Heterogeneous
10089106_0007	built up roofing				Dissolved, Crushed
HA2-2 - B	Newer Gray BUR	None Detected	80% Cellulose	10% Perlite 10% Other	Brown Fibrous Homogeneous
10089106_0026	insulation				Teased
HA2-3 - A	Newer Gray BUR	None Detected	5% Fiber Glass	95% Other	Gray, Black Non-Fibrous Heterogeneous
10089106_0008	built up roofing				Dissolved, Crushed
HA2-3 - B	Newer Gray BUR	None Detected	10% Fiber Glass 10% Cellulose	80% Other	Tan, Black Fibrous Heterogeneous
10089106_0027	felt on foam				Crushed
HA2-3 - C	Newer Gray BUR	None Detected		100% Other	Gray Non-Fibrous Heterogeneous
10089106_0028	cementitious layer				Dissolved, Crushed
HA3-1	Blk mastic @ penetrations	None Detected	5% Cellulose	95% Other	Black Non-Fibrous Homogeneous
10089106_0009					Dissolved
HA3-2	Blk mastic @ penetrations	None Detected	5% Cellulose	95% Other	Black Non-Fibrous Homogeneous
10089106_0010					Dissolved
HA3-3	Blk mastic @ penetrations	None Detected	5% Cellulose	95% Other	Black Non-Fibrous Homogeneous
10089106_0011					Dissolved

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Katelyn Stewart (31)

Analyst

*Nathaniel Durham*

Approved Signatory





# Bulk Asbestos Analysis

By Polarized Light Microscopy  
EPA Method: 600/R-93/116 and  
40 CFR, Part 763, Subpart E, App.E



**Customer:** J.S. Held  
13 Executive Dr, Suite 14  
Fairview Heights, IL 62208  
  
**Project:** 250800498 UMCOLUMBIA

**Attn:** Jeffry Faust

**Lab Order ID:** 10089106  
**Analysis:** PLM  
**Date Received:** 08/08/2025  
**Date Reported:** 08/13/2025

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
HA4-1 - A	Flashing @ parapet walls and curbs	None Detected	5% Cellulose	95% Other	Black Non-Fibrous Heterogeneous
10089106_0012	built-up flashing				Dissolved, Crushed
HA4-1 - B	Flashing @ parapet walls and curbs	None Detected	80% Cellulose	10% Other 10% Perlite	Brown Fibrous Homogeneous
10089106_0029	insulation				Teased
HA4-2 - A	Flashing @ parapet walls and curbs	None Detected	5% Cellulose	95% Other	Black Non-Fibrous Heterogeneous
10089106_0013	built-up flashing				Crushed, Dissolved
HA4-2 - B	Flashing @ parapet walls and curbs	None Detected	80% Cellulose	10% Other 10% Perlite	Brown Fibrous Homogeneous
10089106_0030	insulation				Teased
HA4-3 - A	Flashing @ parapet walls and curbs	None Detected	5% Cellulose	95% Other	Black Non-Fibrous Heterogeneous
10089106_0014	built-up flashing				Crushed, Dissolved
HA4-3 - B	Flashing @ parapet walls and curbs	None Detected	98% Fiber Glass	2% Other	Yellow Fibrous Homogeneous
10089106_0031	insulation				Teased
HA5-1	Tan Caulk @ brick stack	None Detected		100% Other	Tan Non-Fibrous Homogeneous
10089106_0015					Ashed
HA5-2	Tan Caulk @ brick stack	None Detected		100% Other	Tan Non-Fibrous Homogeneous
10089106_0016					Ashed

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Katelyn Stewart (31)

Analyst

*Nathaniel Durham*

Approved Signatory





# Bulk Asbestos Analysis

By Polarized Light Microscopy  
EPA Method: 600/R-93/116 and  
40 CFR, Part 763, Subpart E, App.E



**Customer:** J.S. Held  
13 Executive Dr, Suite 14  
Fairview Heights, IL 62208

**Attn:** Jeffry Faust

**Lab Order ID:** 10089106

**Analysis:** PLM

**Date Received:** 08/08/2025

**Date Reported:** 08/13/2025

**Project:** 250800498 UMCOLUMBIA

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
HA5-3	Tan Caulk @ brick stack	None Detected		100% Other	Tan Non-Fibrous Homogeneous
10089106_0017					Ashed
HA6-1	Debris pile/mastic from brick	4% Chrysotile		96% Other	Black Non-Fibrous Heterogeneous
10089106_0018					Crushed, Dissolved
HA6-2	Debris pile/mastic from brick	Not Analyzed			
10089106_0019					
HA6-3	Debris pile/mastic from brick	Not Analyzed			
10089106_0020					
HA7-1	Gray caulk	None Detected		100% Other	Gray Non-Fibrous Homogeneous
10089106_0021					Ashed
HA7-2	Gray caulk	None Detected		100% Other	Gray Non-Fibrous Homogeneous
10089106_0022					Ashed
HA7-3	Gray caulk	None Detected		100% Other	Gray Non-Fibrous Homogeneous
10089106_0023					Ashed

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Katelyn Stewart (31)

**Analyst**

*Nathaniel Durham*

**Approved Signatory**



**Scientific Analytical Institute**  
4604 Dundas Dr. Greensboro, NC 27407  
Phone: 336.292.3888 Fax: 336.292.3313  
www.sailab.com lab@sailab.com

Lab Use Only  
Lab Order ID: 16089106  
Client Code: \_\_\_\_\_

Company Contact Information	
Company: JS Held	Contact: jeffry.faust@jsheld.com
Address: 13 executive Dr, suite 14 Fairview Heights, IL, 62208	Phone <input checked="" type="checkbox"/> : 6183574680 Fax <input type="checkbox"/> : Email <input checked="" type="checkbox"/> : jeffry.faust@jsheld.com
Billing/Invoice Information	
Company: JS Held	90 Min. <input type="checkbox"/> 48 Hours <input type="checkbox"/>
Contact: jeffry.faust@jsheld.com	3 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/>
Address: 13 executive dr, suite 14 fairview heights, IL, 62208	6 Hours <input type="checkbox"/> 96 Hours <input checked="" type="checkbox"/>
	12 Hours <input type="checkbox"/> 120 Hours <input type="checkbox"/>
	24 Hours <input type="checkbox"/> 144 <sup>+</sup> Hours <input type="checkbox"/>

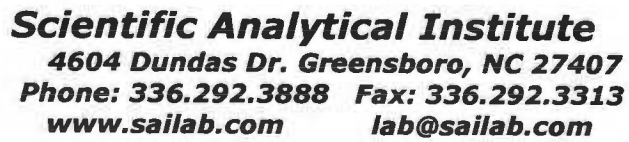
Asbestos Test Types	
PLM EPA 600/R-93/116	<input type="checkbox"/>
(PLM) Positive stop	<input checked="" type="checkbox"/>
PLM Point Count 400 (PT4)	<input type="checkbox"/>
PLM Point Count 1000 (PTM)	<input type="checkbox"/>
PCM NIOSH 7400-A Rules (PCM)	<input type="checkbox"/>
B Rules (PCB) <input type="checkbox"/> TWA (PTA) <input type="checkbox"/>	
TEM AHERA (AHE)	<input type="checkbox"/>
TEM Level II (LII)	<input type="checkbox"/>
TEM NIOSH 7402 (TNI)	<input type="checkbox"/>
TEM Bulk Qualitative (TBL)	<input type="checkbox"/>
TEM Bulk Chatfield (TBS)	<input type="checkbox"/>
TEM Bulk Quantitative (TBQ)	<input type="checkbox"/>
TEM Wipe ASTM D6480-05	<input type="checkbox"/>
TEM Microvac ASTM D5755-02	<input type="checkbox"/>
TEM Water EPA 100.2 (TW1)	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>

PO Number:
Project Name/Number: 250800498 UMCOLUMBIA

Sample ID #	Description/Location	Volume/Area	Comments
HA1-1	Original Gray BUR		
HA1-2	""		
HA1-3	""		
HA1-4	""		
HA1-5	""		Wet
HA2-1	Newer Gray BUR		
HA2-2	""		
HA2-3	""		
HA3-1	Blk mastic @ penetrations		
HA3-2	""		
HA3-3	""		

Total # of Samples 23

Relinquished by	Date/Time	Received by	Date/Time
Evan Saindon	8/7/2025 4:00 PM	Jeff 818	10:30 am



**Lab Use Only**  
Lab Order ID: 10089106  
Client Code: \_\_\_\_\_

Page 2 of 2  
A-F-017

United States Department of Commerce  
National Institute of Standards and Technology



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## Certificate of Accreditation to ISO/IEC 17025:2017

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NVLAP LAB CODE: 200664-0

**Scientific Analytical Institute**  
Greensboro, NC

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

### **Asbestos Fiber Analysis**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communiqué on ISO/IEC 17025).*

---

2025-01-01 through 2025-12-31

*Effective Dates*



A handwritten signature in blue ink, reading "Dana S. Laman".

---

*For the National Voluntary Laboratory Accreditation Program*

**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

**Scientific Analytical Institute**

4604 Dundas Drive

Greensboro, NC 27407

Mr. Nathaniel Durham

Phone: 336-292-3888 Fax: 336-292-3313

Email: [ndurham@sailab.com](mailto:ndurham@sailab.com)

<http://www.sailab.com>

**ASBESTOS FIBER ANALYSIS**

**NVLAP LAB CODE 200664-0**

**Bulk Asbestos Analysis**

**Code**

**Description**

18/A01

EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

18/A03

EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

**Airborne Asbestos Analysis**

**Code**

**Description**

18/A02

U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.



*For the National Voluntary Laboratory Accreditation Program*



# AIHA Laboratory Accreditation Programs, LLC

## SCOPE OF ACCREDITATION

**Scientific Analytical Institute, Inc.**

4604 Dundas Dr., Greensboro, NC 27407

**Laboratory ID: LAP-173190**

Issue Date: 01/09/2025

Expire Date: 11/01/2026

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

### Industrial Hygiene Laboratory Accreditation Program (IHLAP)

**Initial Accreditation Date: 03/01/2007**

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter, characteristic, material, or product tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400	Asbestos/Fibers
Asbestos/Fiber Microscopy Core	Polarized Light Microscopy (PLM)	-	40 CFR 763, Sub. E, Appendix E	Asbestos
Asbestos/Fiber Microscopy Core	Polarized Light Microscopy (PLM)	-	Interim Method for the Determination of Asbestos in Bulk Insulation Samples	Asbestos/Fibers
Asbestos/Fiber Microscopy Core	Transmission Electron Microscopy (TEM)	-	NIOSH 7402	Asbestos
Asbestos/Fiber Microscopy Core	Transmission Electron Microscopy (TEM)	-	40 CFR 763, Sub. E, Appendix A (AHERA)	Asbestos
Chromatography Core	Ion Chromatography (IC)	-	NIOSH 7605	Hexavalent Chromium
Chromatography Core	Ion Chromatography (IC)	-	OSHA ID-215 (Version 2)	Hexavalent Chromium
Chromatography Core	Ion Chromatography (IC)	-	NIOSH 7600	Hexavalent Chromium
Miscellaneous Core	Gravimetric	-	NIOSH 0500	Total Dust
Miscellaneous Core	Gravimetric	-	NIOSH 0600	Respirable Dust
Spectrometry Core	Atomic Absorption	CVAA	NIOSH 6009	Mercury
Spectrometry Core	Atomic Absorption	CVAA	OSHA ID-140	Mercury
Spectrometry Core	Atomic Absorption	FAA	NIOSH 7082	Lead
Spectrometry Core	Inductively-Coupled Plasma	ICP/AES	NIOSH 7300	Metals
Spectrometry Core	Inductively-Coupled Plasma	ICP/AES	NIOSH 7303	Metals
Spectrometry Core	X-ray Diffraction (XRD)	-	NIOSH 7500	Silica

Effective: 10/24/2023

Revision: 10

Page 1 of 2

## **APPENDIX D**

# **LEAD BULK LABORATORY ANALYTICAL REPORT AND CHAIN OF CUSTODY**



# Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy  
EPA SW-846 3050B/6010C/7000B



**Customer:** J.S. Held  
13 Executive Dr, Suite 14  
Fairview Heights, IL 62208

**Attn:** Jeffry Faust

**Lab Order ID:** 10089108

**Analysis:** PBP

**Date Received:** 08/08/2025

**Date Reported:** 08/15/2025

**Project:** 250800498 UMCOLUMBIA

Sample ID	Description	Mass (g)	Reporting Limit (ppm)	Concentration (ppm)	Concentration (% by weight)
Lab Sample ID	Lab Notes				
PB-1	Steel girder + pipes	0.0773	52	<52	<0.0052%
10089108_0001					
PB-2	Red metal siding	0.1599	25	300	0.030%
10089108_0002					
PB-3	Gray on building	0.1058	38	<38	<0.0038%
10089108_0003					

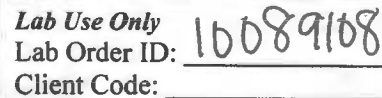
Disclaimer: Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIIA ELPAT program. ELPAT Laboratory ID: 173190. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Analytical uncertainty available upon request. The quality control samples run with the samples in this report have passed all EPA required specifications unless otherwise noted. RL: (Report Limit for an undiluted 50ml sample is 4µg Total Pb). All sample dried before preparation and analysis.

Mark Doki (3)

**Analyst**

**Approved Signatory**





## **APPENDIX E**

### **ASBESTOS AND LEAK SAMPLE LOCATION DIAGRAM**

## Asbestos & Lead Bulk Sample Location Diagrams

### Appendix E



Asbestos Bulk Samples: ACM



Asbestos Bulk Samples: Non-ACM



Asbestos Bulk Samples:  $\leq 1\%$  Asbestos



Lead Bulk Samples: Non-Detect



Lead Bulk Samples: Detected

#### Asbestos and Lead Bulk Sample Location Diagrams

Power Plant 1923 & 1955 Roof Replacement  
415 South Fifth Street  
Columbia, Missouri 65201

Nick Eilerman  
AHERA Building Inspector:  
7118062025MOIR22394

Lead Risk Assessor:  
300006693

INSPECTION DATE:

August 7, 2025

INSPECTED BY:

N. Eilerman

PROJECT NO.

250800498



**JS|HELD**

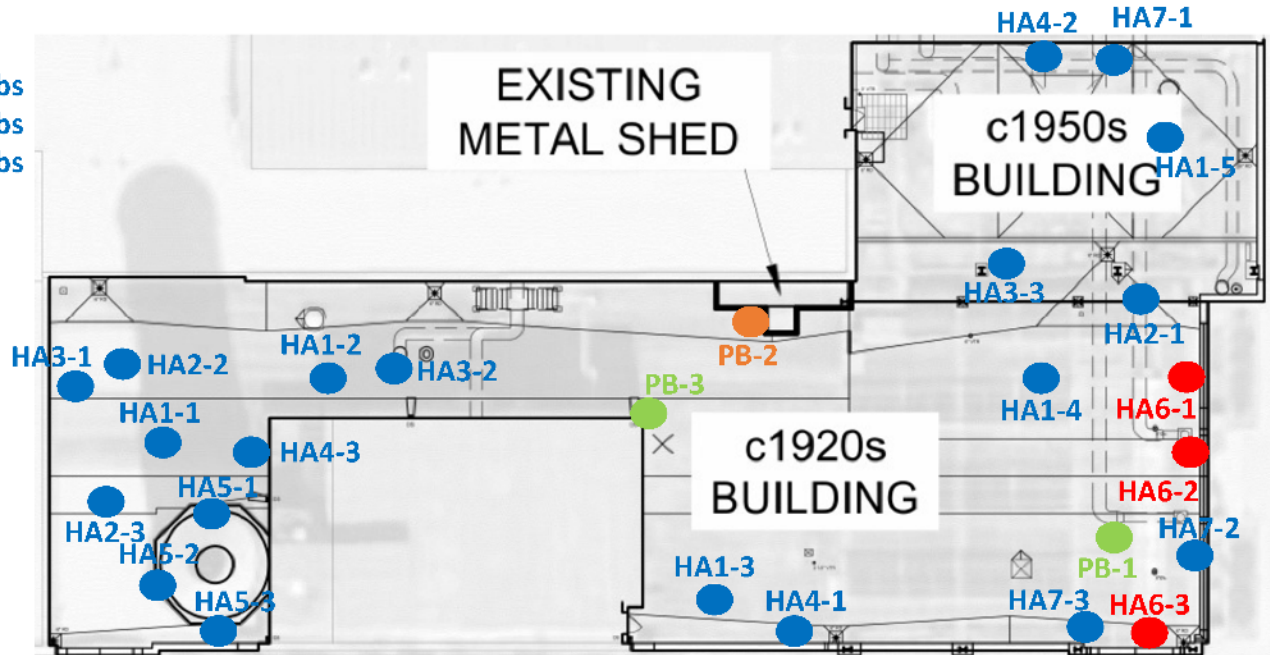
# POWER PLANT 1923 & 1955 – ROOF

## Asbestos Bulk Samples:

HA1-1: Original Gray Built-Up Roofing  
 HA1-2: Original Gray Built-Up Roofing  
 HA1-3: Original Gray Built-Up Roofing  
 HA1-4: Original Gray Built-Up Roofing  
 HA1-5: Original Gray Built-Up Roofing  
 HA2-1: Newer Gray Built-Up Roofing  
 HA2-2: Newer Gray Built-Up Roofing  
 HA2-3: Newer Gray Built-Up Roofing  
 HA3-1: Black Mastic at Penetrations  
 HA3-2: Black Mastic at Penetrations  
 HA3-3: Black Mastic at Penetrations  
 HA4-1: Flashing at Parapet Walls and Curbs  
 HA4-2: Flashing at Parapet Walls and Curbs  
 HA4-3: Flashing at Parapet Walls and Curbs  
 HA5-1: Tan Caulking at Brick Stack  
 HA5-2: Tan Caulking at Brick Stack  
 HA5-3: Tan Caulking at Brick Stack  
 HA6-1: Debris Pile/Mastic From Brick  
 HA6-2: Debris Pile/Mastic From Brick  
 HA6-3: Debris Pile/Mastic From Brick  
 HA7-1: Gray Caulking  
 HA7-2: Gray Caulking  
 HA7-3: Gray Caulking

## Lead Bulk Samples:

PB-1: Steel Girder and Pipes  
 PB-2: Red Metal Siding  
 PB-3: Gray on Building



### Asbestos and Lead Bulk Sample Location Diagrams

Power Plant 1923 & 1955 Roof Replacement  
 415 South Fifth Street  
 Columbia, Missouri 65201

*Nick Eilerman*

Nick Eilerman  
 AHERA Building Inspector:  
 7118062025MOIR22394

Lead Risk Assessor:  
 300006693

INSPECTION DATE:

August 7, 2025

INSPECTED BY:

N. Eilerman

PROJECT NO.

250800498



**JS|HELD**

## **APPENDIX F**

### **ASBESTOS SPECIFICATIONS**

SECTION 02080  
FRIABLE AND NON-FRIABLE ASBESTOS REMOVAL

**PART 1 - GENERAL**

Provisions of the General Conditions and Special Conditions are part of this Division.

**1.1 SCOPE OF WORK**

1. General: The work specified herein shall be the abatement of asbestos containing materials by certified and registered persons who are knowledgeable, qualified and trained in the abatement, handling, and disposal of asbestos containing material, and subsequent cleaning of the affected environment.

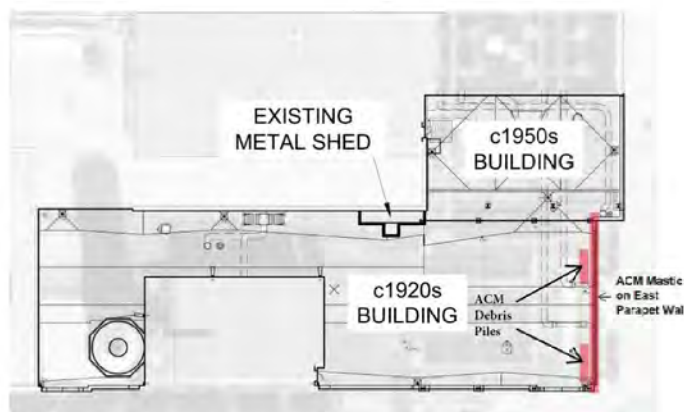
2. The Contractor shall furnish all labor, material, equipment, testing, services, permits, insurance, notifications, necessary or required to perform the work in accordance with applicable local, state, and federal regulations for the abatement of asbestos containing materials and for other work as specified in this section or as indicated in associated drawings, sketches, or reports of the work.

All fees required for notification requirements, re-notifications, and/or inspections by the regulatory agencies shall be paid by the Contractor. Bulk sample analysis information required by the Department of Natural Resources, U.S. Environmental Protection Agency or local authority having jurisdiction in conjunction with the notification shall also be provided by the Contractor unless provided within this section.

3. The work shall include:

1. The removal and disposal of non-friable asbestos:

Category I Nonfriable ACM was discovered in the form of black roofing tar mastic (4% chrysotile) located on the exposed East brick parapet walls of the c1920s Building and in debris piles adjacent to the East and South parapet walls. Approximate quantity of ACM tar mastic is 250 square feet on the East parapet walls of the c1920s Building, and 5 cubic feet in the debris piles adjacent to the East and South parapet walls.



## 1.2 DEFINITIONS

1. Abatement - Procedures to decrease or eliminate the source of fiber release from asbestos containing building materials. Includes encapsulation, enclosure, and removal.
2. Adequately Wet - To sufficiently mix or penetrate with liquid to prevent the release of particulate.
3. Aggressive Air Sampling - Sweeping of floors, ceilings and walls and other surfaces with the exhaust of a minimum of one (1) horsepower leaf blower or equivalent immediately prior to air monitoring.
4. Approved Waste Disposal Site - A solid waste disposal area that is authorized by the Department of Natural Resources to receive asbestos containing solid wastes.
5. Asbestos - The asbestiform varieties of serpentine (chrysotile, antigorite), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, and actinolite-tremolite.
6. Asbestos Abatement Supervisor - An individual who directs, controls, or supervises others in asbestos abatement projects.
7. Asbestos Containing Building Material (ACBM) - Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
8. Asbestos Containing Material (ACM) - Any material containing more than 1 percent asbestos by weight.
9. Barrier - Any surface that seals off the work area to inhibit the movement of fibers.
10. Category I Nonfriable ACM - Asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products containing more than one percent (1%) asbestos as determined using the method specified in 40 CFR part 763, subpart F, Appendix A, section 1, Polarized Light Microscopy.
11. Category II Nonfriable ACM - Any material, excluding category I nonfriable ACM, containing more than one percent (1%) asbestos as determined using the methods specified in 40 CFR part 763, subpart F, Appendix A, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.
12. Containment - Area where asbestos abatement project is conducted. Area must be enclosed either by a glove bag or plastic sheeting barrier.
13. Contractor's Competent Person (Qualified Person) - One who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32 (f); in addition, for Class I, II, III, and IV work, who is specially trained in training courses which meet the criteria of EPA's Model Accreditation Plan (40 CFR Part 763) for project designer or supervisor, or its equivalent.

14. Decontamination Area - Enclosed area adjacent and connected to the regulated area which is used for decontamination of workers, materials, and equipment that are contaminated with asbestos.
15. Demolition - the wrecking or taking out of any load bearing structural member of a facility together with any related handling operations.
16. Disposal Bag - A properly labeled 6 mil. thick leak-tight plastic bag used for transporting asbestos waste from work area to disposal site.
17. Encapsulant (Sealant) - A liquid material which can be applied to asbestos-containing material and which prevents the release of asbestos fibers from the material either by creating a membrane over the surface or by penetrating into the material and binding its components together.
18. Encapsulation - Treatment of asbestos containing materials with an encapsulant.
19. Enclosure - The construction of an airtight, impermeable, permanent barrier around asbestos containing material to control the release of asbestos fibers into the air.
20. Friable Asbestos Material - Any material containing more than one percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763 section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
21. Glove Bag - A manufactured or fabricated device, typically constructed of six (6) mil transparent polyethylene or polyvinyl chloride plastic. This device consist of two (2) inward projecting long sleeves, an internal tool pouch and an attached, labeled receptacle for asbestos waste.
22. Homogeneous Work Site - Continuous areas with the same type of ACM and in which one type of abatement process is performed.
23. Negative Initial Exposure Assessment - An assessment by a "Competent Person" in which it is concluded that employee exposures during the job are likely to be consistently below the Permissible Exposure Levels.
24. Outside Air - Air outside of the containment.
25. Owner's Air Monitoring Firm - Air Monitoring conducted by a person who is not under the direct control of the person carrying out the asbestos abatement project and who has been selected by the Owner.
26. Owner's Air Sampling Professional - An individual who holds a valid certification from the State of Missouri. The individual shall conduct, oversee, or be responsible for air monitoring of asbestos abatement projects before, during, and after the project has been completed. The air sampling professional must hold a 40 hour AHERA Asbestos Contractor/Supervisor Certificate, and reporting through the Owner's Representative.



27. Owner's Air Sampling Technician - An individual who has been trained by and is under the supervision of an air sampling professional to do air monitoring before, during, and after the asbestos abatement project. The air sampling technician must hold a 40 hour AHERA Asbestos Contractor/Supervisor Certificate, and reporting through the Owner's Representative.

28. Owner's EHS Representative – Individual reporting through the Owner's Representative who is certified by the Missouri Department of Natural Resources as an air sampling professional and hold a 40 hour AHERA Asbestos Contractor/Supervisor Certificate.

29. Personal Monitoring - Sampling of the asbestos fiber concentrations within the breathing zone.

30. Regulated Asbestos Containing Material (RACM) - Friable asbestos material; Category I nonfriable ACM that has become friable; Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

31. Remove - To take out RACM or facility components that contain or are covered with RACM from any facility.

32. Renovation - Altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component.

33. Repair - The restoration of asbestos material that has been damaged. Repair consists of the application of rewettable glass cloth, canvas, cement or other suitable material. It may also involve filling damaged areas with non-asbestos substitutes and re-encapsulating or painting previously encapsulated materials.

34. Strip - To take off RACM from any part of a facility or facility components.

35. Waste Shipment Record - The shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos containing waste material.

36. Work Area - A specific isolated area, other than the space enclosed within a glove bag, in which friable asbestos-containing materials is required to be handled. The area is designated as a work area from the time that the area is secured and access restrictions are in place. The area remains designated as a work area until the time that it has been cleaned in accordance with any requirements applicable to the operations conducted.

### 1.3 CODES AND REGULATIONS

1. General Applicability Of Codes, Regulations and Standards - All applicable codes, regulations, standards, statutes, laws, and rules have the same force and effect (and are

made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith. Where conflicts arise, the most stringent specification shall apply.

2. Contractor Responsibility - The Contractor shall assume full responsibility and liability for the compliance with all applicable federal, state, and local regulations pertaining to work practices, hauling, disposal and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable federal, state, and local regulations. The Contractor shall hold the owner harmless for failure to comply with any applicable work, hauling, disposal, safety, health, or other regulations on the part of the contractor, contractor's employees, or contractor's subcontractors.

3. Federal and State requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

1. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) including but not limited to:

1. Title 29, Part 1910, Section 1001 and Part 1926, Section 1101 of the Code of Federal Regulations.

2. Respiratory Protection, Title 29, Part 1910, Section 134 of the Code of Federal Regulations.

3. Construction Industry, Title 29. Part 1926, of the Code of Federal Regulations.

4. Access to Employee Exposure and Medical Records, Title 29, Part 1910, Section 2 of the Code of Federal Regulations.

5. Hazard Communication, Title 29, Part 1910, Section 1200 of the Code of Federal Regulations.

6. Specifications for Accident Prevention Signs and Tags, Title 29, Part 1910, Section 145 of the Code of Federal Regulations.

2. U.S. Environmental Protection Agency (EPA) including but not limited to:

1. National Emission Standards for Hazardous Air Pollutants (NESHAPS) Title 40, Part 61, Subpart M, Code of Federal Regulations.

3. U.S. Department of Transportation (DOT) including but not limited to:

1. Title 49, Part 172, Section 101 of the Code of Federal Regulations.

4. State of Missouri including but not limited to:

1. H.B. 77, 85th General Assembly.

2. Missouri Air Conservation Law Chapter 643.

3. Missouri Department of Natural Resources, Division 10, Chapter 6 of the Code of State Regulations as follows:

(1) 10 CSR 10-6.020, Definitions

(2) 10 CSR 10-6.080, Emission Standards for Hazardous Air Pollutants

(3) 10 CSR 10-6.230, Administrative Penalties

(4) Volume 18, Missouri Register, Page 44

(5) 10 CSR 10-6.250, Asbestos Abatement Projects - Certification, Accreditation, and Business Exemption Requirements

#### 1.4 NOTIFICATIONS

1. Notifications meeting the requirements of Volume 18, Missouri Register, page 44, shall be completed and sent by the Contractor not less than ten (10) days before the intended starting date of the project. Send notification to the following:

1. Department of Natural Resources  
Air Pollution Control Program (Asbestos)  
P.O. Box 176  
Jefferson City, Missouri 65102

2. U.S. Environmental Protection Agency  
Region VII  
Air & Toxic Division, Air Branch  
ATTN: Air Compliance  
726 Minnesota Avenue  
Kansas City, Kansas 66101

3. Provide a copy to the Owner's Representative. Five (5) day notification to the Owner's Representative is required on jobs less than the reportable quantity.

4. If the project is under the jurisdiction of the Kansas City Air Quality Section, St. Louis County Air Pollution Control Branch, or the Springfield-Green County Air Pollution Control Authority, send notification directly to the appropriate agency.

#### 1.5 SUBMITTALS

1. The following will be submitted by contractor 10 days prior to commencement of work for approval by the EHS Representative (one copy for the Owner's Representative). EHS Representative will return reviewed copies to contractor and Owner's Representative.

1. One copy of material safety data sheets (MSDS) for products to be used by the Contractor in the performance of his work. Contractor will also maintain copies of MSDS on site per OSHA.

2. One copy of the notifications to, or any correspondence with, the regulatory agencies. Submit a listing of all prior regulatory violations.

## 2. Friable Abatement:

1. Current Certificates of training and statement of qualifications for the project asbestos abatement supervisor and the Missouri Asbestos Occupational Certificates for all project personnel. List a summary of project personnel and contact phone numbers.

2. Name, address, and contact person's name of testing laboratory or laboratories to be utilized analyzing samples for bulk analysis or air samples.

3. Submit a detailed plan of the procedures proposed for use in complying with requirements of this specification and Volume 18, Missouri Register, page 44, and 29 CFR 1926.1101. Include in the plan the layout and location of barriers, decontamination units, route of ingress and egress for work area, methods used to assure safety of building occupants and visitors, methods used to isolate or closing out of HVAC system, personal air monitoring strategy, method of removal of material, and engineering controls utilized to prevent emissions from the work area.

4. Provide a disposal plan to detail type of disposal container, method of transportation to disposal site, waste hauler, and disposal site.

5. Copy of notifications required as part of the emergency notification plan.

## 3. Non-Friable Abatement:

1. Submit a detailed plan of the procedures proposed to minimize emissions and to prevent the material from becoming friable during removal.

2. Copy of emergency protection plan to be used if the nonfriable material should become friable during removal.

3. Current Certificates of training and statement of qualifications for the "Competent Person".

4. One copy of the Negative Initial Exposure Assessment.

4. Upon completion of the abatement work, the following information shall be submitted to the Owner's Representative.

1. Waste disposal receipts and waste shipment record on all asbestos waste removed from the project.

## PART 2 - PRODUCTS - NOT USED

## PART 3 - EXECUTION

### 3.1 SUPERVISION OF ABATEMENT

1. The Contractor shall designate a competent supervisor subject to the approval of the Owner's Representative and EHS. The supervisor shall be the Contractor's Representative on the project and shall meet the requirements of all applicable regulations and perform the following minimum requirements.

1. Be Certified by the State of Missouri as an Asbestos Abatement Supervisor, a minimum of one year prior full time experience in asbestos abatement work and a minimum of two years experience as a supervisor, and be qualified as a Competent Person in accordance with OSHA regulation 1926.1101.
2. Be on site and supervise all abatement work in accordance with OSHA and Volume 18, Missouri Register, page 44.
3. Conduct all OSHA required air monitoring.
4. Maintain a daily log on the project documenting events, visitations, problems, equipment failures, accidents, and inspections.
5. Be responsible for implementation of first aid, safety training, respiratory protection, and ensuring all workers are trained in emergency procedures.
6. Be responsible for conducting a visual inspection of the work area prior to a visual inspection by EHS. Inspection shall be documented.

### 3.2 NEGATIVE INITIAL EXPOSURE ASSESSMENT

1. The Contractor must conduct a Negative Initial Exposure Assessment (non-friable asbestos) prior to removal of the asbestos material. The Negative Initial Exposure Assessment shall be performed by a "Competent Person" to determine whether the material may be removed and maintained in a nonfriable condition. If the material cannot be removed without becoming friable then the contractor shall comply to the requirements in this specification at no additional cost to the Owner.

2. The method of removal is the Contractor's option. However, in the event of any of the following:

1. Visible emissions are observed
2. Sanding, grinding, cutting, or abrading of the material
3. Air samples exceed 0.1 f/cc

The contractor shall immediately stop work, implement corrective work practices, make any necessary notifications to all regulatory agencies of the changes in work practices and material conditions, and comply with the requirements as set forth in this specification.

### 3.3 WORKER PROTECTION & TRAINING

1. The Contractor shall be responsible for providing his employees with proper respiratory protection, respiratory training, written respirator program, medical examinations, maintaining medical records, and protective clothing and equipment to comply with OSHA requirements.
2. The Contractor shall be responsible for all testing and costs incurred for complying with requirements of OSHA regulations for Personal Air Sampling.
3. All workers shall be trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and protective measures.
4. All workers shall hold valid diplomas as accredited Asbestos Abatement Workers as required by 10 CSR 10-6.250.

### 3.4 INDEPENDENT TESTING LABORATORY

1. Testing Laboratories utilized by the Contractor for sample analysis during the project shall meet the following minimum requirements and be approved by the Owner's Representative. This information shall be submitted to the Owner's Representative for review.
  1. All air monitoring samples shall be analyzed by a testing laboratory accredited by the American Industrial Hygiene Association (AIHA) or by an individual who is currently on the Asbestos Analyst Registry.
  2. All bulk samples shall be analyzed by a testing laboratory accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

### 3.5 OWNER'S AIR SAMPLING PROFESSIONAL & CERTIFIED INDUSTRIAL HYGIENIST

1. It will be the Owner's responsibility to provide an Air Sampling Professional. The Air Sampling Professional will also be required to perform the following duties as a minimum:
  1. Verify that the contractor is satisfactorily performing personal air monitoring as directed by OSHA regulations.

2. Visual inspection of the work area and final clearance air monitoring.

3. Issue final air clearance.

### 3.6 EMERGENCY PROTECTION PLAN

1. The contractor shall be responsible for developing a written Emergency Protection Plan and shall maintain this plan on site. The plan shall include considerations of asbestos leakage from the site, fire, explosion, toxic atmospheres, electrical hazards, slips, falls, and heat related injury. All employees shall be instructed and trained in the procedures.

### 3.7 LOCAL AREA PROTECTION & SITE SECURITY

1. The contractor shall be responsible for all areas of the building used by him and/or subcontractors in the performance of the work. Contractor shall exert full control over the actions of all employees and other persons with respect to the use and preservation of the existing building, except such controls as may be specifically reserved to the owner.

2. Contractor has the right to exclude from the work area all persons who have no purpose related to the work or its inspection, and shall require all persons in the work area to observe the same regulations required of Contractor's employees.

3. The contractor shall have control of site security during abatement operations in order to protect work environment and equipment. Contractor shall have the owner's assistance in notifying building occupants of impending activity and enforcement of restricted access by owner's employees.

4. The contractor shall keep a minimum of two 10 lbs. type ABC fire extinguishers on site. One shall be maintained outside the work area and one inside the work area. The employees shall be trained in the operation of extinguishers.

5. Where areas cannot be isolated by existing walls and doors from employees, clients, or the public, barriers must be constructed to satisfaction of the Owner's Representative to prevent breach of containment for the duration of the project. The barriers must be installed in such a manner to prevent damage to existing walls, floors, or ceilings. Barrier may have a lockable door.

6. The contractor shall maintain the work area free from rubbish, debris, and dirt and keep a clean, safe working area.

7. The Contractor shall provide warning signage around the regulated area as required by OSHA.

8. The Contractor shall isolate any and all air supply and returns to the abatement space as required by OSHA. Contractor shall coordinate with the Owner's Representative.

9. The Contractor shall keep all areas where adhesive stripper is in use (such as mastic removal) under negative pressure and exhausted to the outside ambient air.

### 3.8 FINAL CLEARANCE REQUIREMENTS (FRIABLE ASBESTOS)

1. Upon completion of the abatement work, the abatement contractor's supervisor shall perform a visual inspection of the work area. If satisfactory, the contractor's supervisor shall then request EHS or the EHS Owner's air sampling technician to perform a visual inspection. When EHS feels the area is ready based on the results of their visual inspection, the Contractor shall apply a lockdown encapsulant. Following application of lockdown encapsulant, the Owner's air sampling technician shall perform the final clearance sampling for airborne fiber concentrations.

2. The Owner's Representative or designee will perform final clearance testing per the following requirements:

1. Aggressive sampling shall be required for all areas where removal has taken place with the exception of glove bag projects where nonaggressive sampling is permitted.

2. Phase Contrast Microscopy P.C.M. samples analyzed on site shall be counted by a trained microscopist.

3. For areas specifically specified for clearance by Transmission Electron Microscopy, the method shall be NIOSH 7402.

3. Any work areas failing to meet the clearance requirements of this section shall be recleaned and retested at the contractor's expense until satisfactory levels are obtained.

### 3.9 REESTABLISHMENT OF THE WORK AREA AND SYSTEMS

1. Reestablishment of the work area shall only occur after the contractor has received final clearance in writing from the Owner's Representative or EHS.

2. All damage to finishes, equipment, and/or the area affected by the abatement shall be repaired by the contractor to equal or better condition as it was prior to the work, at no cost to the owner.

### 3.10 WASTE DISPOSAL

1. All asbestos containing waste and/or asbestos contaminated debris shall as a minimum be double bagged in approved 6 mil. disposal bags. Each bag shall be tagged to meet requirements of NESHAPS with an asbestos caution label and a source identification label.

2. Transportation shall meet the requirements of all regulatory agencies for asbestos containing materials and shall be transported in an enclosed truck.



3. The waste disposal site shall be approved by the Missouri Department of Natural Resources for asbestos disposal. A chain of custody letter/waste shipment record and disposal receipts shall be provided to the owner for all materials disposed of.

### 3.11 DRAWINGS

1. Drawings, when provided, are not intended to be used for anything but a "reference" to the work area. Information is not specific to quantities or to exact location of ACM unless explicitly noted. Contractor will be required to field verify the conditions and quantities.

### 3.12 REPORTS

1. Reports, when provided, are intended to be used as a basis for the type and composition of the asbestos present for both bidding purposes and for the information required for the notifications to the governing agencies.

**SECTION 05 1200  
STRUCTURAL STEEL FRAMING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section includes structural steel and grout.
- B. Related Sections:
  - 1. Division 05 Section "Architecturally Exposed Structural Steel Framing" for additional requirements for architecturally exposed structural steel.

**1.2 DEFINITIONS**

- A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
- B. Moment Connections: Type FR, fully restrained.

**1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication of structural-steel components.

**1.4 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For qualified Installer, fabricator, and testing agency.
- B. Welding certificates.
- C. Mill test reports for structural steel, including chemical and physical properties.
- D. Source quality-control reports.

**1.5 QUALITY ASSURANCE**

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Comply with applicable provisions of the following specifications and documents:
  - 1. AISC 303.
  - 2. AISC 360.
  - 3. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

**PART 2 - PRODUCTS**

**2.1 STRUCTURAL-STEEL MATERIALS**

- A. W-Shapes: ASTM A 572/A 572M, Grade 50 (345).
- B. Channels, Angles, M, S-Shapes: ASTM A 36/A 36M.
- C. Plate and Bar: ASTM A 36/A 36M.
- D. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.
- E. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.
- F. Welding Electrodes: Comply with AWS requirements.

## **2.2 BOLTS, CONNECTORS, AND ANCHORS**

- A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, (ASTM A 563M, Class 8S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers; all with plain finish.
  - 1. Direct-Tension Indicators: ASTM F 959, Type 325 (ASTM F 959M, Type 8.8), compressible-washer type with plain finish.
- B. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, heavy-hex head assemblies consisting of steel structural bolts with splined ends, heavy-hex carbon-steel nuts, and hardened carbon-steel washers.
  - 1. Finish: Plain.
- C. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.
- D. Unheaded Anchor Rods: ASTM F 1554, Grade 36.
  - 1. Configuration: Straight.
  - 2. Finish: Plain.
- E. Headed Anchor Rods: ASTM F 1554, Grade 36, straight.
  - 1. Finish: Plain.
- F. Threaded Rods: ASTM A 36/A 36M.
  - 1. Finish: Plain.

## **2.3 PRIMER**

- A. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.

## **2.4 GROUT**

- A. Metallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, metallic aggregate grout, mixed with water to consistency suitable for application and a 30-minute working time.

## **2.5 FABRICATION**

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
- B. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

## **2.6 SHOP CONNECTIONS**

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
  - 1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

## **2.7 SHOP PRIMING**

- A. Shop prime steel surfaces except the following:
  - 1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches (50 mm).
  - 2. Surfaces to be field welded.
  - 3. Surfaces to be high-strength bolted with slip-critical connections.
  - 4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
  - 5. Galvanized surfaces.
- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
  - 1. SSPC-SP 2, "Hand Tool Cleaning."
  - 2. SSPC-SP 3, "Power Tool Cleaning."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.

## **2.8 SOURCE QUALITY CONTROL**

- A. Testing Agency: Contractor will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.
  - 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
- C. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
  - 1. Liquid Penetrant Inspection: ASTM E 165.
  - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
  - 3. Ultrasonic Inspection: ASTM E 164.
  - 4. Radiographic Inspection: ASTM E 94.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.2 ERECTION**

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
- B. Base Bearing and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
  - 1. Set plates for structural members on wedges, shims, or setting nuts as required.
  - 2. Weld plate washers to top of baseplate.
  - 3. Snug-tighten Pretension anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
  - 4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.
- C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

### **3.3 FIELD CONNECTIONS**

- A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
  - 1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
  - 1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.

### **3.4 FIELD QUALITY CONTROL**

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.
- B. Bolted Connections: Bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- C. Welded Connections: Field welds will be visually inspected according to AWS D1.1/D1.1M.
- D. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

**END OF SECTION**

**SECTION 0 53100  
STEEL DECKING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Roof deck.
  - 2. Noncomposite form deck.

**1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of deck, accessory, and product indicated.
- B. Shop Drawings:
  - 1. Include layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.

**1.3 INFORMATIONAL SUBMITTALS**

- A. Welding certificates.
- B. Product certificates.
- C. Evaluation reports.
- D. Field quality-control reports.

**1.4 QUALITY ASSURANCE**

- A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

**1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

**PART 2 - PRODUCTS**

**2.1 PERFORMANCE REQUIREMENTS**

- A. AISI Specifications: Comply with calculated structural characteristics of steel deck according to AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members."
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. ASC Profiles, Inc.; a Blue Scope Steel company.
  - 2. Canam United States; Canam Group Inc.
  - 3. CMC Joist & Deck.
  - 4. Consolidated Systems, Inc.; Metal Dek Group.
  - 5. Cordeck.
  - 6. DACS, Inc.
  - 7. Epic Metals Corporation.
  - 8. Marlyn Steel Decks, Inc.
  - 9. New Millennium Building Systems, LLC.
  - 10. Nucor Corp.; Vulcraft Group.
  - 11. Roof Deck, Inc.
  - 12. Valley Joist; Subsidiary of EBSCO Industries, Inc.
  - 13. Verco Manufacturing Co.
  - 14. Wheeling Corrugating Company; Div. of Wheeling-Pittsburgh Steel Corporation.
- C. Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 31, and with the following:

1. Prime-Painted Steel Sheet: ASTM A 1008/A 1008M, Structural Steel (SS), Grade 33 (230) minimum, shop primed with manufacturer's standard baked-on, rust-inhibitive primer.
  - a. Color: Per Architect.
2. Galvanized-Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade 33 (230) G30 (Z90) zinc coating.
3. Galvanized and Shop-Primed Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade 33 (230) G60 (Z180) zinc coating; cleaned, pretreated, and primed with manufacturer's standard baked-on, rust-inhibitive primer.
  - a. Color: Per Architect].
4. Deck Profile: As indicated.
5. Profile Depth: As indicated.
6. Design Uncoated-Steel Thickness: As indicated.

## 2.2 NONCOMPOSITE FORM DECK

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
  1. ASC Profiles, Inc.; a Blue Scope Steel company.
  2. Canam United States; Canam Group Inc.
  3. CMC Joist & Deck.
  4. Consolidated Systems, Inc.; Metal Dek Group.
  5. Cordeck.
  6. DACS, Inc.
  7. Marilyn Steel Decks, Inc.
  8. New Millennium Building Systems, LLC.
  9. Nucor Corp.; Vulcraft Group.
  10. Roof Deck, Inc.
  11. Valley Joist; Subsidiary of EBSCO Industries, Inc.
  12. Verco Manufacturing Co.
  13. Wheeling Corrugating Company; Div. of Wheeling-Pittsburgh Steel Corporation.
- B. Noncomposite Form Deck: Fabricate ribbed-steel-sheet noncomposite form-deck panels to comply with "SDI Specifications and Commentary for Noncomposite Steel Form Deck," in SDI Publication No. 31, with the minimum section properties indicated, and with the following:
  1. Uncoated Steel Sheet: ASTM A 1008/A 1008M, Structural Steel (SS), Grade 33 (230) minimum.
  2. Prime-Painted Steel Sheet: ASTM A 1008/A 1008M, Structural Steel (SS), Grade 33 (230) minimum, with top and underside surface shop primed with manufacturer's standard baked-on, rust-inhibitive primer.
    - a. Color: Per Architect.
  3. Galvanized-Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade 33 (230), G30 (Z90) zinc coating.
  4. Galvanized and Shop-Primed Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade 33 (230), G60 (Z180) zinc coating; cleaned, pretreated, and primed with manufacturer's standard baked-on, rust-inhibitive primer.
    - a. Color: Per Architect.
  5. Profile Depth: As indicated.
  6. Design Uncoated-Steel Thickness: As indicated.

## 2.3 ACCESSORIES

- A. General: Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.
- B. Mechanical Fasteners: Corrosion-resistant, low-velocity, power-actuated or pneumatically driven carbon-steel fasteners; or self-drilling, self-threading screws.

- C. Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 (4.8-mm) minimum diameter.
- D. Flexible Closure Strips: Vulcanized, closed-cell, synthetic rubber.
- E. Miscellaneous Sheet Metal Deck Accessories: Steel sheet, minimum yield strength of 33,000 psi (230 MPa), not less than 0.0359-inch (0.91-mm) design uncoated thickness, of same material and finish as deck; of profile indicated or required for application.
- F. Flat Sump Plates: Single-piece steel sheet, 0.0747 inch (1.90 mm) thick, of same material and finish as deck. For drains, cut holes in the field.
- G. Galvanizing Repair Paint: ASTM A 780.
- H. Repair Paint: Manufacturer's standard rust-inhibitive primer of same color as primer.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION, GENERAL**

- A. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 31, manufacturer's written instructions, and requirements in this Section.
- B. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.
- C. Place deck panels flat and square and fasten to supporting frame without warp or deflection.
- D. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to deck.
- E. Provide additional reinforcement and closure pieces at openings as required for strength, continuity of deck, and support of other work.
- F. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used for correcting welding work.
- G. Mechanical fasteners may be used in lieu of welding to fasten deck. Locate mechanical fasteners and install according to deck manufacturer's written instructions.
- H. Roof Sump Pans and Sump Plates: Install over openings provided in roof deck and mechanically fasten flanges to top of deck. Space mechanical fasteners not more than 12 inches (305 mm) apart with at least one fastener at each corner.
  - 1. Install reinforcing channels or zees in ribs to span between supports and mechanically fasten.
- I. Miscellaneous Roof-Deck Accessories: Install ridge and valley plates, finish strips, end closures, and reinforcing channels according to deck manufacturer's written instructions. Mechanically fasten to substrate to provide a complete deck installation.
  - 1. Weld cover plates at changes in direction of roof-deck panels unless otherwise indicated.
- J. Pour Stops and Girder Fillers: Weld steel-sheet pour stops and girder fillers to supporting structure according to SDI recommendations unless otherwise indicated.
- K. Floor-Deck Closures: Weld steel-sheet column closures, cell closures, and Z-closures to deck, according to SDI recommendations, to provide tight-fitting closures at open ends of ribs and sides of deck.

### **3.2 FIELD QUALITY CONTROL**

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Field welds will be subject to inspection.
- C. Testing agency will report inspection results promptly and in writing to Contractor and Architect.
- D. Remove and replace work that does not comply with specified requirements.
- E. Additional inspecting, at Contractor's expense, will be performed to determine compliance of corrected work with specified requirements.



### **3.3 PROTECTION**

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Repair Painting: Wire brush and clean rust spots, welds, and abraded areas on both surfaces of prime-painted deck immediately after installation, and apply repair paint.

**END OF SECTION**

**SECTION 05 4000  
COLD-FORMED METAL FRAMING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section includes the following:
  - 1. Exterior load-bearing wall framing.
  - 2. Interior load-bearing wall framing.
  - 3. Exterior non-load-bearing wall framing.

**1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product and accessory indicated.
- B. Shop Drawings: Show layout, spacings, sizes, thicknesses, and types of cold-formed metal framing; fabrication; and fastening and anchorage details, including mechanical fasteners.
  - 1. For cold-formed metal framing indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

**1.3 INFORMATIONAL SUBMITTALS**

- A. Qualification data.
- B. Welding certificates.
- C. Product test reports.
- D. Research/evaluation reports.

**1.4 QUALITY ASSURANCE**

- A. Product Tests: Mill certificates or data from a qualified independent testing agency indicating steel sheet complies with requirements.
- B. Welding: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code--Sheet Steel."
- C. Fire-Test-Response Characteristics: Where indicated, provide cold-formed metal framing identical to that of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.
- D. AISI Specifications and Standards: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" and its "Standard for Cold-Formed Steel Framing - General Provisions."
  - 1. Comply with AISI's "Standard for Cold-Formed Steel Framing - Truss Design."
  - 2. Comply with AISI's "Standard for Cold-Formed Steel Framing - Header Design."
- E. Comply with AISI's "Standard for Cold-Formed Steel Framing - Prescriptive Method for One and Two Family Dwellings."

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Recycled Content of Steel Products: Post-consumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.

**2.2 LOAD-BEARING WALL FRAMING**

- A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
  - 1. Minimum Base-Metal Thickness: As indicated on drawings.
- B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with straight flanges, and same minimum base-metal thickness as steel studs.

- C. Steel Box or Back-to-Back Headers: Manufacturer's standard C-shapes used to form header beams, of web depths indicated, punched, with stiffened flanges, and as follows:
  - 1. Minimum Base-Metal Thickness: 0.0428 inch (1.09 mm).
  - 2. Flange Width: 1-5/8 inches (41 mm).

## **2.3 EXTERIOR NON-LOAD-BEARING WALL FRAMING**

- A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
  - 1. Minimum Base-Metal Thickness: 0.0428 inch (1.09 mm).
  - 2. Flange Width: 1-5/8 inches (41 mm).
- B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with un-stiffened flanges, and same minimum base-metal thickness as steel studs.
- C. Vertical Deflection Clips: Manufacturer's standard bypass clips, capable of accommodating upward and downward vertical displacement of primary structure through positive mechanical attachment to stud web.
- D. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with un-stiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal and lateral loads.
- E. Double Deflection Tracks: Manufacturer's double, deep-leg, U-shaped steel tracks, consisting of nested inner and outer tracks; unpunched, with un-stiffened flanges.

## **2.4 FRAMING ACCESSORIES**

- A. Fabricate steel-framing accessories from steel sheet, ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of same grade and coating weight used for framing members, unless otherwise indicated.
- B. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.
- C. Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel hex-headed bolts and carbon-steel nuts; and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153/A 153M, Class C.
- D. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 5 times design load, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
- E. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times design load, as determined by testing per ASTM E 1190 conducted by a qualified independent testing agency.
- F. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.
  - 1. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere.

## **2.5 MISCELLANEOUS MATERIALS**

- A. Galvanizing Repair Paint: ASTM A 780.
- B. Cement Grout: Portland cement, ASTM C 150, Type I; and clean, natural sand, ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.
- C. Shims: Load bearing, high-density multimonomer plastic, non-leaching.
- D. Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch (6.4 mm) thick, selected from manufacturer's standard widths to match width of bottom track or rim track members.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Install load bearing shims or grout between the underside of wall bottom track or rim track and the top of foundation wall or slab at stud or joist locations to ensure a uniform bearing surface on supporting concrete or masonry construction.
- B. Install sealer gaskets to isolate the underside of wall bottom track or rim track and the top of foundation wall or slab at stud or joist locations.

### **3.2 INSTALLATION, GENERAL**

- A. Install cold-formed metal framing according to AISI's "Standard for Cold-Formed Steel Framing - General Provisions" and to manufacturer's written instructions unless more stringent requirements are indicated.
- B. Install cold-formed metal framing and accessories plumb, square, and true to line, and with connections securely fastened.
- C. Install framing members in one-piece lengths.
- D. Install temporary bracing and supports to secure framing and support loads comparable in intensity to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
- E. Do not bridge building expansion and control joints with cold-formed metal framing. Independently frame both sides of joints.
- F. Install insulation, specified in Division 07 Section "Thermal Insulation," in built-up exterior framing members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.
- G. Fasten hole reinforcing plate over web penetrations that exceed size of manufacturer's standard punched openings.
- H. Erection Tolerances: Install cold-formed metal framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet (1:960) and as follows:
  - 1. Space individual framing members no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

### **3.3 LOAD-BEARING WALL INSTALLATION**

- A. Install continuous top and bottom tracks sized to match studs. Align tracks accurately and securely anchor at corners and ends, and at spacings as follows:
  - 1. Anchor Spacing: As shown on Drawings.
- B. Squarely seat studs against top and bottom tracks with gap not exceeding of 1/8 inch (3 mm) between the end of wall framing member and the web of track. Fasten both flanges of studs to top and bottom tracks. Space studs as follows:
  - 1. Stud Spacing: As indicated.
- C. Set studs plumb, except as needed for diagonal bracing or required for non-plumb walls or warped surfaces and similar configurations.
- D. Align studs vertically where floor framing interrupts wall-framing continuity. Where studs cannot be aligned, continuously reinforce track to transfer loads.
- E. Align floor and roof framing over studs. Where framing cannot be aligned, continuously reinforce track to transfer loads.
- F. Anchor studs abutting structural columns or walls, including masonry walls, to supporting structure as indicated.
- G. Install headers over wall openings wider than stud spacing. Locate headers above openings as indicated. Fabricate headers of compound shapes indicated or required to transfer load to supporting studs, complete with clip-angle connectors, web stiffeners, or gusset plates.
  - 1. Frame wall openings with not less than a double stud at each jamb of frame as indicated on Shop Drawings. Fasten jamb members together to uniformly distribute loads.

2. Install runner tracks and jack studs above and below wall openings. Anchor tracks to jamb studs with clip angles or by welding, and space jack studs same as full-height wall studs.
- H. Install supplementary framing, blocking, and bracing in stud framing indicated to support fixtures, equipment, services, casework, heavy trim, furnishings, and similar work requiring attachment to framing.
  1. If type of supplementary support is not indicated, comply with stud manufacturer's written recommendations and industry standards in each case, considering weight or load resulting from item supported.
- I. Install horizontal bridging in stud system, spaced as indicated. Fasten at each stud intersection.
  1. Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs with a minimum of 2 screws into each flange of the clip angle for framing members up to 6 inches (150 mm) deep.
  2. Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
  3. Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.
- J. Install steel sheet diagonal bracing straps to both stud flanges, terminate at and fasten to reinforced top and bottom tracks. Fasten clip-angle connectors to multiple studs at ends of bracing and anchor to structure.
- K. Install miscellaneous framing and connections, including supplementary framing, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

### **3.4 EXTERIOR NON-LOAD-BEARING WALL INSTALLATION**

- A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure as indicated.
- B. Fasten both flanges of studs to top and bottom track, unless otherwise indicated. Space studs as follows:
  1. Stud Spacing: As indicated].
- C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.
- D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.
  1. Install single deflection tracks and anchor to building structure.
  2. Install double deflection tracks and anchor outer track to building structure.
  3. Connect vertical deflection clips to bypassing studs and anchor to primary building structure.
- E. Install horizontal bridging in wall studs, spaced in rows indicated on Drawings. Fasten at each stud intersection.
  1. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 12 inches (305 mm) of single deflection track. Install a combination of flat, taut, steel sheet straps of width and thickness indicated and stud or stud-track solid blocking of width and thickness matching studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
    - a. Install solid blocking at centers indicated.
  2. Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.
  3. Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
  4. Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.

- F. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, fasteners, and stud girts, to provide a complete and stable curtain-wall-framing system.

### **3.5 FIELD QUALITY CONTROL**

- A. Testing: Contractor will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Field and shop welds will be subject to testing and inspecting.
- C. Testing agency will report test results promptly and in writing to Contractor and Architect.
- D. Remove and replace work where test results indicate that it does not comply with specified requirements.
- E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

### **3.6 REPAIRS AND PROTECTION**

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed metal framing is without damage or deterioration at time of Substantial Completion.

**END OF SECTION**

**SECTION 06 1000  
ROUGH CARPENTRY**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Concealed wood blocking, nailers, and supports.
- B. Misc. sheathing.
- C. Self-Adhered Flashing Membrane.

**1.02 SUBMITTALS**

- A. See Division One for submittal procedures.
- B. Product Data: Provide technical data on wood preservative materials.

**PART 2 PRODUCTS**

**2.01 GENERAL REQUIREMENTS**

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
  - 1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
  - 2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee ([www.alsc.org](http://www.alsc.org)) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

**2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS**

- A. Grading Agencies:
  - 1. Southern Pine Inspection Bureau, Inc; SPIB.
  - 2. West Coast Lumber Inspection Bureau; WCLIB.
  - 3. Western Wood Products Association; WWPA.
- B. Sizes: Nominal sizes as indicated on drawings, S4S.
- C. Moisture Content: S-dry or MC19.
- D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
  - 1. Lumber: S4S, No.2 or Standard Grade.
  - 2. Boards: Standard or No.3.

**2.03 CONSTRUCTION PANELS**

- A. Sheathing: Glass mat faced gypsum, ASTM C1177/C1177M, 1/2 inch (12.5 mm) thick.
  - 1. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
  - 2. Edges: Square.

**2.04 ACCESSORIES**

- A. Fasteners and Anchors:
  - 1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
- B. Self-Adhered Flashing Membrane: See 07 2700 Air Barriers.

**2.05 FIRE-RETARDANT TREATMENT (FRT)**

- A. Factory-treat wood members in accordance with AWP A U1 and use category indicated
- B. Fire-Retardant Treatment: Exterior Type B, Use Category UCFB.
  - 1. Treat wood in locations indicated on drawings.
- C. Kiln-dry after treatment (KDAT) to maximum moisture content of 19 percent for sawn material and 15 percent for plywood.

- D. Fabrication of FRT Wood:
  - 1. Ripping or milling of boards, lumber, and timber after treatment is not permitted.
  - 2. Field cutting to length and drilling of holes in boards, lumber, and timber are permitted without additional treatment.
  - 3. Field cutting and drilling of holes in plywood are permitted.
- E. Label or brand FRT wood with classification mark of UL (DIR) or ITS (DIR) or other approved inspection agency, the treatment plant, name of treatment, species of wood, flame spread and smoke developed index, method of drying after treatment, and treating standard.
  - 1. In addition, label Exterior Type B wood with the words: NO INCREASE IN THE LISTED CLASSIFICATIONS WHEN SUBJECTED TO THE STANDARD RAIN TEST. In accordance with ASTM D2898.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION - GENERAL**

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including shims, bracing, and blocking.

### **3.02 ROOF-RELATED CARPENTRY**

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.
- B. Provide wood curb at each roof opening except where prefabricated curbs are specified and where specifically indicated otherwise; form corners by alternating lapping side members.

### **3.03 INSTALLATION OF CONSTRUCTION PANELS**

- A. Parapet Sheathing: Secure with long dimension perpendicular to studs, with ends over firm bearing, using screws.
  - 1. Place self-adhered flashing membrane over sheathing as indicated on drawings, weather lapping edges and ends.

### **3.04 TOLERANCES**

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

### **3.05 CLEANING**

- A. Waste Disposal:
  - 1. Comply with applicable regulations.
  - 2. Do not burn scraps that have been pressure-treated.
- B. Prevent sawdust and wood shavings from entering the storm drainage system.

**END OF SECTION**



## **SECTION 07 2700 AIR BARRIERS**

### **PART 1 GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Air barriers.
- B. Self-adhesive flexible flashing.

#### **1.02 RELATED REQUIREMENTS**

- A. Section 06 1000 - Rough Carpentry: Air barrier under exterior cladding.
- B. Section 07 6200 - Sheet Metal Flashing and Trim: Metal flashings installed in conjunction with air barriers.

#### **1.03 DEFINITIONS**

- A. Air Barrier: Airtight barrier made of material that is virtually air impermeable but water vapor permeable, both to amount as specified, with sealed seams and sealed joints to adjacent surfaces.

#### **1.04 SUBMITTALS**

- A. See Division One for submittal procedures.
- B. Product Data: Provide data on material characteristics, performance criteria, and limitations.
- C. Manufacturer's Installation Instructions: Indicate preparation, installation methods, and storage and handling criteria.

#### **1.05 FIELD CONDITIONS**

- A. Maintain temperature and humidity recommended by materials manufacturers before, during, and after installation.

### **PART 2 PRODUCTS**

#### **2.01 AIR BARRIER MATERIALS (AIR IMPERMEABLE AND WATER VAPOR PERMEABLE)**

- A. Air Barrier, Fluid Applied: Vapor semi-permeable, elastomeric waterproofing.
  - 1. Air Barrier Coating:
    - a. Air Permeance: 0.004 cfm/sq ft (0.02 L/(s sq m)), maximum, when tested in accordance with ASTM E2178.
    - b. Water Vapor Permeance: 11 perms (629 ng/(Pa s sq m)), minimum, when tested in accordance with ASTM E96/E96M using Procedure B - Water Method, at 73.4 degrees F (23 degrees C).
    - c. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less, Class A when tested in accordance with ASTM E84.
    - d. Nail Sealability: Pass, when tested in accordance with ASTM D1970/D1970M.
    - e. Sealants, Tapes and Accessories: As recommended by coating manufacturer.
    - f. Products:
      - 1) Dow Chemical Company; DOWSIL DefendAir 200C: [consumer.dow.com/en-us/industry/ind-building-construction.html](http://consumer.dow.com/en-us/industry/ind-building-construction.html).
      - 2) DuPont de Nemours, Inc; Tyvek Fluid Applied WB+ with Tyvek Fluid Applied Flashing and Joint Compound, Sealant for Tyvek Fluid Applied System, and StraightFlash: [building.dupont.com](http://building.dupont.com).
      - 3) GCP Applied Technologies; Perm-A-Barrier VPL 50RS UV Stable: [www.gcpat.com](http://www.gcpat.com).
      - 4) Substitutions: See Division One.

#### **2.02 ACCESSORIES**

- A. Sealants, Tapes, and Accessories for Sealing Air Barrier and Adjacent Substrates: As indicated or in compliance with air barrier manufacturer's installation instructions.

- B. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement waived if not installed on roof.
  - 1. Products:
    - a. Basis-of-Design: GCP: Product; Grace Ice & Water Shield HT: <https://gcpat.com/en>.
    - b. Substitutions: See Division One.
- C. Seam and Perimeter Tape: Polyethylene face material with acrylic adhesive.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that surfaces and conditions are ready for work of this section.
- B. Where existing conditions are responsibility of another installer, notify Architect of unsatisfactory conditions.
- C. Do not proceed with this work until unsatisfactory conditions have been corrected.

### **3.02 PREPARATION**

- A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.
- B. Clean and prime substrate surfaces to receive adhesives and sealants in accordance with manufacturer's installation instructions.

### **3.03 INSTALLATION**

- A. Install materials in accordance with manufacturer's installation instructions.
- B. Air Barriers: Install continuous airtight barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.
- C. Apply sealants and adhesives within recommended temperature range in accordance with manufacturer's installation instructions.
- D. Fluid-Applied Coatings or Membranes:
  - 1. Prepare substrate in accordance with manufacturer's installation instructions; treat joints in substrate and between dissimilar materials as indicated.
  - 2. Use flashing to seal to adjacent construction and to bridge joints in coating substrate.
- E. Openings and Penetrations in Exterior Air Barriers:
  - 1. Service and Other Penetrations: Form flashing around penetrating item and seal to air barrier surface.

### **3.04 PROTECTION**

- A. Do not leave materials exposed to weather longer than recommended by manufacturer.

## **END OF SECTION**

## **SECTION 07 4213 METAL WALL PANELS**

### **PART 1 GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Manufactured metal panels for exterior wall panels and sub-girt framing assembly, with related flashings and accessory components.

#### **1.02 SUBMITTALS**

- A. See Division One for submittal procedures.
- B. Product Data - Wall System: Manufacturer's data sheets on each product to be used, including:
  - 1. Physical characteristics of components shown on shop drawings.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation instructions and recommendations.
- C. Shop Drawings: Indicate dimensions, layout, joints, construction details, support clips, and methods of anchorage.
- D. Samples: Submit two samples of wall panel, 12 inches by 12 inches in size illustrating finish color, sheen, and texture.
- E. Manufacturer's Qualification Statement.
- F. Installer's Qualification Statement.

#### **1.03 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in installing products of the type specified in this section with minimum three years of documented experience.

#### **1.04 DELIVERY, STORAGE, AND HANDLING**

- A. Protect panels from accelerated weathering by removing or venting sheet plastic shipping wrap.
- B. Store pre-finished material off the ground and protected from weather; prevent twisting, bending, or abrasion; provide ventilation; slope metal sheets to ensure proper drainage.
- C. Prevent contact with materials that may cause discoloration or staining of products.

#### **1.05 WARRANTY**

- A. See Division One for additional warranty requirements.
- B. Correct defective work within a five-year period after Date of Substantial Completion for degradation of panel finish, including color fading caused by exposure to weather.
- C. Correct defective work within a five-year period after Date of Substantial Completion, including defects in water tightness and integrity of seals for metal wall panels.

### **PART 2 PRODUCTS**

#### **2.01 MANUFACTURERS**

- A. Basis of Design:
  - 1. Metal Wall Panels - Delta Concealed Fastener Panel - 16F manufactured by Holcim Elevate; [www.holcimelevate.com](http://www.holcimelevate.com).
- B. Other Acceptable Manufacturers - Metal Wall Panels - Concealed Fasteners:
  - 1. Centria: [www.centria.com](http://www.centria.com).
  - 2. Dimensional Metals Inc: [dmimetals.com](http://dmimetals.com).
  - 3. Substitutions: See Division One.

#### **2.02 MANUFACTURED METAL PANELS**

- A. Wall Panel System: Factory fabricated pre-finished metal panel system; site assembled.
  - 1. Provide exterior wall panels and sub-girt framing assembly.

2. Design and size components to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of wall.
  3. Maximum Allowable Deflection of Panel:  $L/180$  for length(L) of span.
  4. Movement: Accommodate movement within system without damage to components or deterioration of seals, movement between system and perimeter components when subject to seasonal temperature cycling; dynamic loading and release of loads; and deflection of structural support framing.
  5. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
  6. Fabrication: Formed true to shape, accurate in size, square, and free from distortion or defects; pieces of longest practical lengths.
  7. Corners: Factory-fabricated in one continuous piece with minimum 2-inch returns.
- B. Exterior Wall Panels:
1. Profile: Vertical; style as indicated.
  2. Side Seams: Double-interlocked, tight-fitting, sealed with continuous gaskets.
  3. Material: Pre-coated steel sheet, 22-gauge, 0.0299 inch minimum thickness.
  4. Panel Width: 16 inches.
  5. Color: As selected by Architect from manufacturer's standard line.
- C. Sub-girt Framing Assembly:
1. 16-gauge, formed, non-precoated, steel sheet.
  2. Profile: Hat-shaped sections, minimum depth of 7/8 inch, to attach panel system to building.
- D. Internal and External Corners: Same material, thickness, and finish as exterior sheets; profile to suit system; shop cut, and factory mitered to required angles.
- E. Trim: Same material, thickness, and finish as exterior sheets; brake formed to required profiles.
- F. Anchors: Stainless Steel.

## **2.03 MATERIALS**

- A. Precoated Steel Sheet: Hot-dipped galvanized steel sheet, ASTM A653/A653M, Structural Steel (SS) or Forming Steel (FS), with G90/Z275 coating; continuous coil-coated on exposed surfaces with specified finish coating and on panel back with specified panel back coating.

## **2.04 FINISHES**

- A. Exposed Surface Finish: Panel manufacturer's standard polyvinylidene fluoride (PVDF) coating, topcoat over epoxy primer.
- B. Panel Backside Finish: Panel manufacturer's standard siliconized polyester wash coat.

## **2.05 ACCESSORIES**

- A. Cladding Support Clips: Galvanized steel clips for support of cladding z-girts, angles, channels, and other framing.
1. Galvanized Steel Sheet: ASTM A653/A653M, with G90/Z275 galvanized coating.
- B. Gaskets: Manufacturer's standard type suitable for use with system, permanently resilient; ultraviolet and ozone resistant.
- C. Concealed Sealants: Non-curing butyl sealant or tape sealant.
- D. Exposed Sealant: Type E-1, as specified in Section 07 9200.
- E. Fasteners: Manufacturer's standard type to suit application; with soft neoprene washers, steel, hot dip galvanized. Fastener cap same color as exterior panel.
- F. Field Touch-up Paint: As recommended by panel manufacturer.
- G. Bituminous Paint: Asphalt base.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that building is ready to receive panels.
- B. Verify air barrier, see Section 07 2700, has been installed over wall panel substrate.

### **3.02 INSTALLATION – SUB-GIRT FRAMING**

- A. Install sub-girts perpendicular to panel length, securely fastened to substrate and shimmed and leveled to uniform plane. Space at 24-inches on center, maximum.

### **3.03 INSTALLATION – METAL WALL PANELS**

- A. Install panels on walls in accordance with manufacturer's instructions.
- B. Protect surfaces in contact with cementitious materials and dissimilar metals with bituminous paint. Allow to dry prior to installation.
- C. Fasten panels to structural supports; aligned, level, and plumb.
- D. Locate joints over supports.
- E. Lap panel ends minimum 2 inches.
- F. Use concealed fasteners unless otherwise approved by Architect.
- G. Seal and place gaskets to prevent weather penetration. Maintain neat appearance.

### **3.04 TOLERANCES**

- A. Maximum Offset from True Alignment Between Adjacent Members Butting or In Line: 1/16 inch.
- B. Maximum Variation from Plane or Location Indicated on Drawings: 1/4 inch.

### **3.05 CLEANING**

- A. Remove site cuttings from finish surfaces.
- B. Remove protective material from wall panel surfaces.
- C. Clean and wash pre-finished surfaces with mild soap and water; rinse with clean water.

### **3.06 PROTECTION**

- A. Protect metal wall panels until completion of project.
- B. Touch-up, repair, or replace damaged wall panels or accessories before Date of Substantial Completion.

**END OF SECTION**

**SECTION 07 5300**  
**ELASTOMERIC MEMBRANE ROOFING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Elastomeric roofing membrane, adhered conventional application.
- B. Insulation, flat and tapered.
- C. Vapor retarder.
- D. Cover boards.
- E. Roofing stack boots and walkway pads.

**1.02 REFERENCE STANDARDS**

- A. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2024.
- B. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2025.
- C. ASTM D4637/D4637M - Standard Specification for EPDM Sheet Used in Single-Ply Roof Membrane; 2015, with Editorial Revision (2022).
- D. NRCA (WM) - The NRCA Waterproofing Manual; 2021.
- E. UL (DIR) - Online Certifications Directory; Current Edition.

**1.03 ADMINISTRATIVE REQUIREMENTS**

- A. Pre-installation Meeting: Convene a pre-installation meeting one week before starting work of this section; require attendance by all affected installers; review preparation and installation procedures and coordination and scheduling necessary for related work.

**1.04 SUBMITTALS**

- A. See Division One for submittal procedures.
- B. Product Data: Provide data indicating membrane materials, flashing materials, insulation, vapor retarder, and fasteners.
- C. Shop Drawings: Indicate joint or termination detail conditions and conditions of interface with other materials.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.
- F. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.
- G. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

**1.05 QUALITY ASSURANCE**

- A. Perform work in accordance with manufacturer's instructions.
  - 1. Maintain one copy on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum twenty years of documented experience.
- C. Installer Qualifications: Company specializing in performing the work of this section with minimum ten years of documented experience and approved by manufacturer.
- D. Source Limitation: Obtain components for roofing system from roofing system manufacturer or from a source approved by that manufacturer.

## **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact.
- B. Store materials in weather protected environment, clear of ground and moisture.
- C. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.
- D. Protect foam insulation from direct exposure to sunlight.

## **1.07 FIELD CONDITIONS**

- A. Do not apply roofing membrane during unsuitable weather.
- B. Comply with manufacturer's printed cold and hot weather installation requirements.
- C. Do not apply roofing membrane when environmental conditions are outside of the manufacturer's written requirements.
- D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.
- F. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

## **1.08 WARRANTY**

- A. See Division One for University of Missouri Roof System Manufacturer's Certification and University of Missouri Contractor's Roofing/Flashing/Sheet Metal Guarantee.
- B. Provide written certification, that: "All roofing components exclusive of the deck, contained in the system proposed are approved, and compatible with the warranty requirements of the roof system as specified, and that the warranty specified will be issued at completion of project if system is installed as designed.
- C. Provide 20 year, non- prorated, no dollar limit (NDL) manufacturer's material and labor warranty to cover failure to prevent penetration of water. Include all insulation, flashings and penetrations in the warranty.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. EPDM Membrane Materials:
  - 1. Basis of Design: Elevate; Low Slope Fire Retardant (LSFR) RubberGard EPDM Membrane: [www.holcimelevate.com](http://www.holcimelevate.com).
  - 2. Other manufacturers:
    - a. Carlisle SynTec Systems: [www.carlisle-syntec.com](http://www.carlisle-syntec.com).
    - b. Versico Roofing Systems: [www.versico.com](http://www.versico.com).
  - 3. Substitutions: See Division One.
- B. Insulation(flat and tapered where shown on drawings):
  - 1. Basis of Design: Elevate; ISO 95+ GL: [www.holcimelevate.com](http://www.holcimelevate.com).
  - 2. Other manufacturers:
    - a. Carlisle SynTec Systems: [www.carlisle-syntec.com](http://www.carlisle-syntec.com).
    - b. Versico Roofing Systems: [www.versico.com](http://www.versico.com).
  - 3. Substitutions: See Division One.
- C. Cover Boards:
  - 1. Basis of Design: Georgia Pacific; DensDeck Prime: [www.buildgp.com](http://www.buildgp.com).
  - 2. Other manufacturers:
    - a. Carlisle SynTec Systems: [www.carlisle-syntec.com](http://www.carlisle-syntec.com).

- b. Versico Roofing Systems: [www.versico.com](http://www.versico.com).
- 3. Substitutions: See Division One.

## **2.02 ROOFING - UNBALLASTED APPLICATIONS**

- A. Elastomeric Membrane Roofing: One ply membrane, fully adhered, over vapor retarder with insulation and coverboard.
- B. Roofing Assembly Requirements:
  - 1. Roof Covering External Fire Resistance Classification: UL (DIR) certified Class A.
  - 2. Wind Uplift:
    - a. Provide roofing system to withstand wind uplift forces calculated with ASCE 7.
    - b. Provide roofing system to withstand wind speed in accordance with local building code and authorities having jurisdiction (AHJ).

## **2.03 ROOFING MEMBRANE AND ASSOCIATED MATERIALS**

- A. Membrane: Ethylene-propylene-diene-monomer (EPDM); non-reinforced; complying with minimum properties of ASTM D4637/D4637M.
  - 1. Thickness: 60 mil, 0.060 inch (1.5 mm), minimum.
  - 2. Sheet Width: 120 inches (3,048 mm), minimum; factory fabricate into widest possible sheets.
  - 3. Color: Black.
- B. Seaming Materials: Factory-applied tape, 6-inch minimum width..
- C. Seaming Tape: Provide "target" cover patches over seams at all tee intersections in accordance with manufacturer's installation instructions.
- D. Vapor Retarder: Reinforced Kraft paper laminate, complying with requirements of fire rating classification; compatible with roofing and insulation materials.
  - 1. Fire-retardant adhesive.
- E. Flexible Flashing Material: Same material as membrane.
  - 1. Thickness: to match thickness of membrane.
  - 2. Color: Black.

## **2.04 COVER BOARDS**

- A. Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.
  - 1. Thickness: 1/2 inch (12.7 mm), fire-resistant.

## **2.05 INSULATION**

- A. Polyisocyanurate (ISO) Board Insulation: Rigid cellular foam, complying with ASTM C1289.
  - 1. Classifications:
    - a. Type II:
      - 1) Class 1 - Faced with glass fiber reinforced cellulosic facers on both major surfaces of the core foam.
      - 2) Compressive Strength: Classes 1-2-3, Grade 2 - 20 psi (138 kPa), minimum.
  - 2. Board Size: 48 by 96 inches (1220 by 2440 mm).
  - 3. Board Thickness: 0.5 inch (12.7 mm).
  - 4. Tapered Board: Slope as indicated; fabricate of fewest layers possible.

## **2.06 ACCESSORIES**

- A. Stack Boots: Prefabricated flexible boot and collar for pipe stacks through membrane; same material as membrane.
- B. Primer: As recommended by membrane manufacturer.
- C. Membrane Adhesive: As recommended by membrane manufacturer.
- D. Insulation Adhesive: As recommended by insulation manufacturer.



- E. Termination Bar: 1" wide x.098 thick extruded aluminum bar, pre-punched @ 6" o.c.; provide angled sealant ledge to support sealant and to provide increased stability for membrane terminations.
- F. Walkway Pads: Suitable for maintenance traffic, contrasting color or otherwise visually distinctive from roof membrane.
  - 1. Composition: Asphaltic with mineral granule surface or Roofing membrane manufacturer's standard.
  - 2. Size: 18 by 18 inches (460 by 460 mm).
  - 3. Surface Color: White.
  - 4. Location: See roof plan.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Verify deck is supported and secure.
- C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
- D. Verify deck surfaces are dry and free of snow or ice.
- E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.

#### **3.02 PREPARATION - WOOD DECK**

- A. Verify flatness and tightness of joints in wood decking; fill knot holes with latex filler.
- B. Confirm dry deck by moisture meter with 12 percent moisture maximum.

#### **3.03 PREPARATION - CONCRETE DECK**

- A. Fill surface honeycomb and variations with latex filler.
- B. Confirm dry deck by moisture meter with 12 percent moisture maximum.
- C. Verify that there are no asphaltic material remnants that will come in contact with insulation and adhesive. If present, prime with primer recommended by manufacturer.

#### **3.04 INSTALLATION - VAPOR RETARDER AND INSULATION, UNDER MEMBRANE**

- A. Install vapor retarder to deck surface with adhesive in accordance with manufacturer's instructions.
  - 1. Extend vapor retarder under cant strips and blocking to deck edge.
  - 2. Install flexible flashing from vapor retarder to air seal material of wall construction, lap and seal to provide continuity of the air barrier plane.
- B. Ensure vapor retarder is clean and dry, continuous, and ready for application of insulation.
- C. Attachment of Insulation: Embed insulation in adhesive in full contact, in accordance with roofing and insulation manufacturers' instructions.
- D. Cover Boards: Mechanically fasten cover boards in accordance with roofing manufacturer's instructions.
- E. Lay subsequent layers of insulation with joints staggered minimum 6 inches (152 mm) from joints of preceding layer.
- F. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.
- G. On metal deck (*Alternates 1 & 2*), place boards perpendicular to flutes with insulation board edges bearing on deck flutes.
- H. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.

- I. At roof drains, use factory-tapered boards to slope down to roof drains over a distance of 18 inches (457 mm).
- J. Do not apply more insulation than can be covered with membrane in same day.

### **3.05 INSTALLATION - MEMBRANE**

- A. Install elastomeric membrane roofing system in accordance with manufacturer's recommendations and NRCA (WM) applicable requirements.
- B. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the workday, a daily seal must be performed to temporarily close the membrane to prevent water intrusion; provide temporary seal per manufacturer's requirements.
- C. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.
- D. Shingle joints on sloped substrate in direction of drainage.
- E. Fully Adhered Application: Apply adhesive to substrate per manufacturer requirements. Fully embed membrane in adhesive except in areas directly over or within 3 inches (76 mm) of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.
- F. Overlap edges and ends and seal seams by contact adhesive, minimum 3 inches (76 mm). Seal permanently waterproof. Apply uniform bead of sealant to joint edge.
- G. At intersections with vertical surfaces:
  - 1. Extend membrane up a minimum of 8 inches onto vertical surfaces.
  - 2. Fully adhere flexible flashing over membrane and up to nailing strips or other means of securement as recommended by Roofing System Manufacturer.
  - 3. Secure flashings as recommended by Roofing System Manufacturer.
- H. Around roof penetrations, seal flanges and flashings with flexible flashing.
- I. Coordinate installation of roof drains and related flashings.
- J. Coordinate installation of associated counter flashings installed under other sections.

### **3.06 FIELD QUALITY CONTROL**

- A. Require site attendance of roofing systems material manufacturers periodically during installation of the Work to ensure compliance with installation procedures in accordance with the Roofing System Manufacturer's requirements.
  - 1. A minimum of four visits during construction is required (including warranty inspection).
  - 2. Furnish written reports of manufacturer observations to the Architect.
  - 3. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all sealant.

### **3.07 CLEANING**

- A. Remove any markings from finished surfaces.
- B. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.
- C. Repair or replace defaced or damaged finishes caused by work of this section.
- D. Perform daily clean-up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.

### **3.08 PROTECTION**

- A. Protect installed roofing and flashings from construction operations.

- B. Where traffic must continue over finished roof membrane, protect surfaces from damage with 1/2-inch plywood over 1-1/2-inch polystyrene insulation, or other method approved in writing by Architect.

**END OF SECTION**

**SECTION 07 6200**  
**SHEET METAL FLASHING AND TRIM**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Fabricated sheet metal items, including flashing, counter-flashing, and miscellaneous sheet metal items shown on drawings, not specified elsewhere.

**1.02 REFERENCE STANDARDS**

- A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025.
- C. ASTM A666/A666M – Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.
- D. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

**1.03 SUBMITTALS**

- A. See Division One for submittal procedures.
- B. Product data.
- C. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashing, terminations, and installation details.
- D. Samples: Submit two sample sets 2x2 inch in size illustrating Manufacturer's full range of metal finish colors available.
- E. Sample Warranty: Submit sample of Manufacturer's standard 20 year finish warranty.

**1.04 QUALITY ASSURANCE**

- A. Perform work in accordance with SMACNA (ASMM) requirements and standard details, except as otherwise indicated.
- B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented experience.

**1.05 DELIVERY, STORAGE, AND HANDLING**

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

**PART 2 PRODUCTS**

**2.01 SHEET MATERIALS**

- A. Pre-finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24-gauge, (0.0239) inch thick base metal, shop pre-coated with PVDF coating.
  - 1. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple-coat, thermally cured fluoropolymer finish system.
  - 2. Color: As selected by Architect from manufacturer's standard colors.
- B. Stainless Steel: ASTM A666, Type 304 alloy, soft temper, 28 gauge, 0.0156 inch thick; smooth No. 4 - Brushed finish.

**2.02 FABRICATION**

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Fabricate cleats of same material as sheet, minimum 4 inches wide, interlocking with sheet.
- C. Form pieces in longest possible lengths.

- D. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- E. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- F. Joints and Seams: Use locks and seams recommended by appropriate SMACNA standard for item being joined. Set in compatible sealant as specified in Section 07 9200. Allow joint to move.
- G. Fabricate corners from one piece with minimum 18-inch-long legs; seam for rigidity, seal with sealant.
- H. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

### **2.03 GUTTERS AND DOWNSPOUTS**

- A. Gutters: Profile as indicated.
- B. Downspouts: Rectangular profile.
- C. Gutters and Downspouts: Size indicated on drawings.
- D. Accessories: Profiled to suit gutters and downspouts.
- E. Splash Pads: Precast concrete type, minimum 3,000 psi at 28 days, with minimum 5 percent air entrainment.
- F. Seal metal joints.

### **2.04 ACCESSORIES**

- A. Fasteners: Same material and finish as flashing metal, with soft neoprene washers.
- B. Underlayment: ASTM D226/D226M, organic roofing felt, Type II (No. 30).
- C. Primer: Zinc chromate type.
- D. Sealants - as specified in Section 07 9200:
  - 1. Type E1 for exposed sealants, color to match adjacent material.
  - 2. Type E2 for concealed sealants.
- E. Plastic Cement: ASTM D4586/D4586M, Type I.
- F. Self-Adhered flexible flashing:
  - 1. Self-Adhering PVC Thermoplastic Membrane; 60-mil thick with fiberglass reinforcement.
- G. Reglets: Surface-mounted type, galvanized steel.
- H. Solder: ASTM B32, Alloy Grade - Sn50 (50/50).

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

### **3.02 PREPARATION**

- A. Install starter strips, edge strips, and cleats before starting installation.
- B. Install surface mounted reglets true to lines and levels, and seal top of reglets with sealant.
- C. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil. Manufacturer's standard back paint on pre-finished sheet metal is acceptable in lieu of in-field back painting.

### **3.03 INSTALLATION**

- A. Conform to drawing details and/or SMACNA standards, whichever is most stringent.
- B. Secure flashings in place using concealed cleats and fasteners, unless otherwise detailed.
- C. Apply plastic cement compound between metal flashings and felt flashings.

- D. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- E. Seal metal joints watertight with sealant specified in Section 07 9200.
- F. Solder metal joints for full metal surface contact, and after soldering wash metal clean with neutralizing solution and rinse with water.
- G. Secure gutters and downspouts in place.
- H. Slope gutters 1/4 inch per 10 feet (2.1 mm per m), minimum.

**END OF SECTION**

## **SECTION 07 9200 JOINT SEALANTS**

### **PART 1 GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Sealants, joint backings, bond breakers, and accessories.

#### **1.02 ADMINISTRATIVE REQUIREMENTS**

- A. Coordinate the work with other sections referencing this section.

#### **1.03 SUBMITTALS**

- A. See Division One for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
  - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
  - 2. List of backing materials approved for use with the specific product.
  - 3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
  - 4. Substrates the product should not be used on.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.
- D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.
- E. Manufacturer's Qualification Statement.
- F. Installer's Qualification Statement.

#### **1.04 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum ten years documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

#### **1.05 WARRANTY**

- A. Correct defective work within a five-year period after Date of Substantial Completion.
- B. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

### **PART 2 PRODUCTS**

#### **2.01 JOINT SEALANTS**

- A. Type E-1 - General Purpose Exterior Sealant: Silicone Sealant; ASTM C920, Grade NS, Class 25; Uses M, G, A, O; single or multi-component, neutral-curing.
  - 1. Non-Staining to Porous Masonry: Non-staining when tested in accordance with ASTM C1248.
  - 2. Color: To be selected by Architect from manufacturer's standard range.
  - 3. Applications: Use for:
    - a. Joints between metal frames and other materials.
    - b. Joints between masonry and other materials.
    - c. Other exterior joints for which no other sealant is indicated.

- B. Type E-2 - Exterior Metal Lap Joint Sealant: Butyl or polyisobutylene; non-drying, non-skinning, non-curing.
  - 1. Applications: Use for:
    - a. Concealed sealant bead in sheet metal work.

## **2.02 ACCESSORIES**

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
  - 1. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.

### **3.02 PREPARATION**

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

### **3.03 INSTALLATION**

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- D. Install bond breaker backing tape where backer rod cannot be used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range or will be outside that range during the entire curing period, unless manufacturer's approval is obtained, and instructions are followed.
- G. Non-sag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

### **3.04 TESTING AND INSPECTION**

- A. Furnish all labor and material to remove and replace sealant during on-site inspections by an independent testing agency furnished by the Owner as hereinafter specified.



1. Upon completion of all sealant work on an elevation, cut and remove the sealant installed in joints at not to exceed 6 locations per side of building, approximately 1 lineal foot per location. The location(s) will be randomly selected by the independent testing agency.
2. Coordinate removal of the sealant and backup material with independent testing agency. Work will be checked for compliance with the contract documents in accordance with ASTM C 1193.
3. If defective work is found in any of the test locations, additional test sections may be required of the Contractor at no additional cost to the Owner.
4. If defective work is found in any of the test locations, additional tests may be required of the contractor at no additional cost to the owner. If any test section removed reveals non-complying work, remove all adjacent sealant work to the point where work is found to comply. Re-seal in accordance with the contract documents. If all tests fail to meet the contract document requirements, the Contractor shall be required to re-seal the entire section of the building at no additional cost to the Owner.
5. Provide lifts or other acceptable means of access to the work.

### **3.05 CLEANING**

- A. Clean adjacent surfaces of excess sealant and smears as a result of this work, before the sealant cures.
- B. Repair joints that have shrunk, sagged, run, and/or that have thin spots or other defects.
- C. Leave adjacent surfaces in as good or better condition than they were before sealant operations.

### **3.06 PROTECTION**

- A. Protect sealants until cured.

### **3.07 SCHEDULE**

- A. See Drawings for designated sealant joints.
- B. Exterior joints for which no other sealant type is Indicated: Type E-1.
- C. Joints between masonry and adjacent work: Type E-1.
- D. Joints between exterior metal frames and adjacent work: Type E-1.
- E. Lap joints in exterior sheet metal work: Type E-2.

**END OF SECTION**

**SECTION 09 9000  
PAINTING AND COATING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Surface preparation.
- B. Field application of paints.
- C. Specified testing of substrates.
- D. Exterior painting and coating systems.
- E. Scope:
  - 1. Finish surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
    - a. Existing roof drains as noted.
    - b. Existing items as noted.
  - 2. Concealed surfaces as noted.
  - 3. Do not paint or finish the following:
    - a. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
    - b. Items indicated to receive other finishes.
    - c. Items indicated to remain unfinished.

**1.02 SUBMITTALS**

- A. See Division One for submittal procedures.
- B. Product Data: Provide complete list of products to be used, with the following information for each:
  - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
  - 2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
  - 3. Manufacturer's installation instructions.
  - 4. If proposal of substitutions is allowed under submittal procedures, explanation of all substitutions proposed.
- C. Samples: Submit two paper draw down samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
- D. Certification: By manufacturer that paint and finishes comply with VOC limits specified.
- E. Maintenance Data: Submit coating maintenance manual including product technical data sheets, safety data sheets (SDS), care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

**1.03 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum ten years documented experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years' experience.

**1.04 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, product name, product code, color designation, VOC content, batch date, environmental handling, surface preparation, application, and use instructions.

- C. Paint Materials: Store at a minimum of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

## **1.05 FIELD CONDITIONS**

- A. Do not apply materials when environmental conditions are outside the ranges required by manufacturer.
- B. Follow manufacturer's recommended procedures for producing the best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Provide all paint and coating products used in any individual system from the same manufacturer, no exceptions.
- B. Basis of Design Products: Subject to compliance with requirements, provide Sherwin-Williams Company products as indicated; [www.sherwin-williams.com](http://www.sherwin-williams.com).
  - 1. Other Acceptable Manufacturers:
    - a. PPG Paints: [www.ppgpaints.com](http://www.ppgpaints.com).
    - b. Tnemec: [www.tnemec.com](http://www.tnemec.com).
  - 2. Substitutions: See Division One.
- C. Primer Sealers: Same manufacturer as topcoats.

### **2.02 PAINTINGS AND COATINGS**

- A. General:
  - 1. Provide factory-mixed coatings unless otherwise indicated.
  - 2. Do not reduce, thin, or dilute coatings or add materials to coatings unless specifically indicated in manufacturer's instructions.
- B. Volatile Organic Compound (VOC) Content:
  - 1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
    - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
  - 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site, or other method acceptable to authorities having jurisdiction.
- C. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

### **2.03 PAINT SYSTEMS - EXTERIOR**

- A. Exterior Ferrous Metal - Galvanized and Non-Galvanized; Ferrous metal items shown on drawings to be painted.
  - 1. Two topcoats and one coat primer.
  - 2. Semi-Gloss Finish.
    - a. Primer: Sherwin-Williams DTM Acrylic Primer Product No. B-66-W1.
    - b. Topcoat Product: Sherwin-Williams DTM Acrylic Coating Product No. B-66-W2-11.
    - c. Color: Match existing.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Test shop-applied primer for compatibility with subsequent cover materials.

### **3.02 PREPARATION**

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-PC 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).
- D. Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand or power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs

### **3.03 APPLICATION**

- A. Protect adjacent materials from damage as a result of this work.
- B. Temporarily remove and re-install existing fixtures and other items such as lighting and cameras to allow for this work.
- C. Apply products in accordance with manufacturer's written instructions.
- D. Apply coatings at spread rate required to achieve manufacturer's recommended dry film thickness.
- E. Coordinate this work with joint sealant installation as specified in Section 07 9200 and as noted on Drawings.
- F. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- G. Apply each coat to uniform appearance.
- H. Sand metal surfaces lightly between coats to achieve required finish.
  - 1. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

### **3.04 PRIMING**

- A. Apply primer to all surfaces unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.
- B. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

### **3.05 CLEANING**

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.
- B. Clean surfaces immediately of over spray, splatter, and excess material.
- C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

### **3.06 PROTECTION**

- A. Protect finished coatings from damage until completion of project.
- B. Touch-up damaged finishes after Substantial Completion.

### **END OF SECTION**