

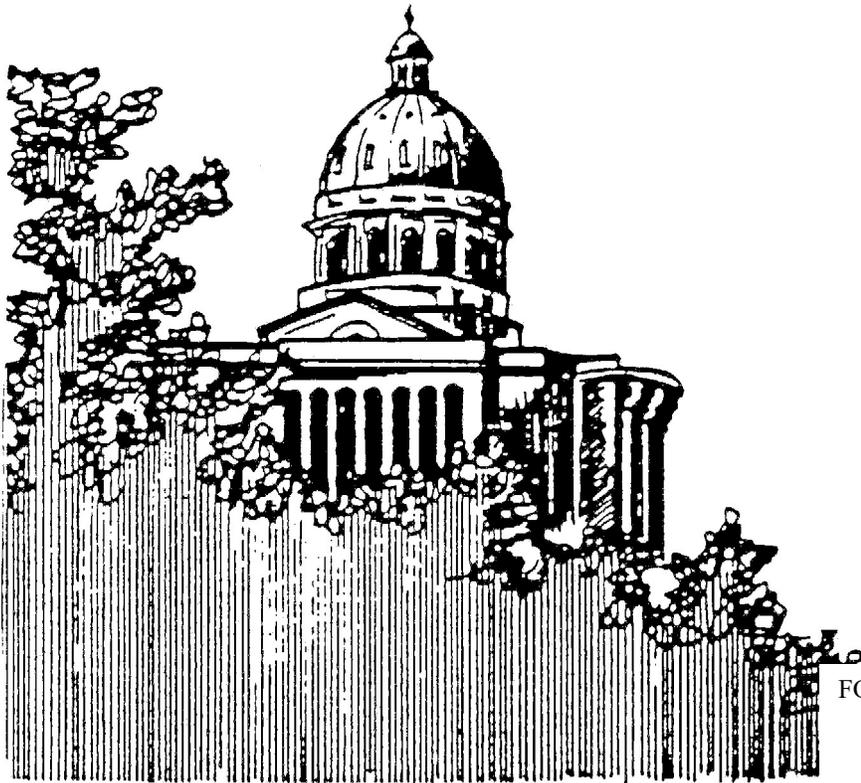
PROJECT MANUAL

Window Replacement Administration Building - Wheeler Hall Missouri School for the Deaf Fulton, Missouri

DESIGNED BY: Robert Rollings Architects, LLC
1806 W Broadway Blvd.
Sedalia, MO 65301

DATE ISSUED: 8/19/2019

PROJECT NO.: E1906-01



FOR: State of Missouri
Office of Administration
Division of Facilities Management,
Design and Construction

SECTION 000107 – PROFESSIONAL SEALS AND CERTIFICATIONS

PROJECT NUMBER: F1906-01

THE FOLLOWING DESIGN PROFESSIONALS HAVE SIGNED AND SEALED THE ORIGINAL PLANS AND SPECIFICATIONS FOR THIS PROJECT, WHICH ARE ON FILE WITH THE DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION:

ARCHITECT:

Robert Rollings Architects, LLC
1806 W. Broadway Blvd.
Sedalia, MO 65301
660-829-9751



02.19.19

I Robert D. Rollings hereby specify, pursuant to RS MO 327.411, that the documents or instruments relating to be authenticated by my seal are limited to

LIST OF DRAWINGS (ARCHITECTURAL)

SHEET ORDER	SHEET NUMBER	SHEET NAME
1	G-001	COVER SHEET
2	G-002	INFORMATION SHEET
3	D-101	DEMOLITION PLAN
4	A-101	FLOOR PLANS
5	A-201	EXTERIOR ELEVATIONS
6	A-202	EXTERIOR ELEVATIONS
7	A-401	SECTION DETAILS
8	A-601	WINDOW SCHEDULE / DETAILS

SPECIFICATION SECTIONS (ARCHITECTURAL)

DIVISION 2 – EXISTING CONDITIONS

024119 Selective Structure Demolition

DIVISION 6 – WOOD, PLASTICS, AND COMPOSITES

061053 Miscellaneous Rough Carpentry

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

079200 Joint Sealants

DIVISION 8 – OPENINGS

084113 Aluminum Framed Entrances and Storefronts

085113 Aluminum Windows

087100 Door Hardware

088000 Glass and Glazing

Environmental Engineer

Engineer:

Edwin P. Grimmer, P.E.

SCI Engineering, Inc.

130 Point West Blvd.

St. Charles, MO 63301

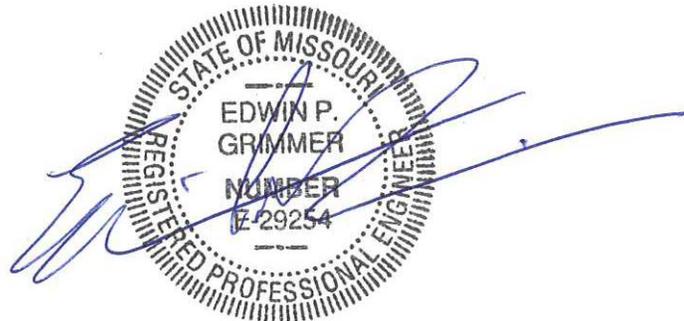
636-949-8200

I Edwin P. Grimmer, P.E. hereby specify, pursuant to RS MO 327.411, that the documents or instruments relating to be authenticated by my seal are limited to

SPECIFICATION SECTIONS (ENVIRONMENTAL)

DIVISION 2 – EXISTING CONDITIONS

028213 Asbestos Abatement



19 Aug 19

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions, Bid Form, and other Division 1 Specification Sections apply to this Section.

1.2 SUMMARY

- A. This Section provides a comprehensive list of the drawings that comprise the Bid Documents for this project.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 LIST OF DRAWINGS

- A. The following list of drawings is a part of the Bid Documents:

SHEET ORDER	SHEET #	SHEET NAME	CAD
1	G-001	COVER SHEET	E1906-01_2490_31001_G_01
2	G-002	INFORMATION SHEET	E1906-01_2490_31001_G_02
3	D-101	DEMOLITION PLAN	E1906-01_2490_31001_A_DP_03
4	A-101	FLOOR PLANS	E1906-01_2490_31001_A_FP_04
5	A-201	EXTERIOR ELEVATIONS	E1906-01_2490_31001_A_EL_05
6	A-202	EXTERIOR ELEVATIONS	E1906-01_2490_31001_A_EL_06
7	A-401	SECTION DETAILS	E1906-01_2490_31001_A_DT_07
8	A-601	WINDOW SCHEDULE/DETAILS	E1906-01_2490_31001_A_SH_08

END OF SECTION 000115

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SECTION 001116 - INVITATION FOR BID

1.0 OWNER:

- A. The State of Missouri
Office of Administration,
Division of Facilities Management, Design and Construction
Jefferson City, Missouri

2.0 PROJECT TITLE AND NUMBER:

- A. Window Replacement
Administration Building - Wheeler Hall
Missouri School for the Deaf
Fulton, Missouri
Project No.: E1906-01

3.0 BIDS WILL BE RECEIVED:

- A. Until: 1:30 PM, Thursday, January 23, 2020
- B. **Only electronic bids on MissouriBUYS shall be accepted: <https://missouribuys.mo.gov>. Bidder must be registered to bid.**

4.0 DESCRIPTION:

- A. Scope: The project includes the removal and replacement of all exterior aluminum windows in approximately 90 openings, with new non-operable aluminum windows. There are two openings with five windows, 45 openings with three windows, 27 openings with two windows, and 18 openings with one window. The project also includes removal and replacement of two aluminum storefronts with five new aluminum windows each, and the removal of a hollow metal double door and frame with transoms and sidelights to be replaced with a new aluminum storefront door and frame. Demolition will include asbestos abatement with third party air monitoring on the interior of the windows, storefronts, and hollow metal door system.
- B. Estimate: \$361,500.00 to \$496,700.00
- C. MBE/WBE/SDVE Goals: MBE 10.00%, WBE 10.00%, & SDVE 3.00%. **NOTE: Only MBE/WBE firms certified by a State of Missouri public entity as of the date of bid opening, or SDVE(s) meeting the requirements of Section 34.074, RSMo and 1 CSR 30-5.010, can be used to satisfy the MBE/WBE/SDVE participation goals for this project.**
- D. ****NOTE:** Bidders are provided new Good Faith Effort (GFE) forms on MissouriBUYS.

5.0 PRE-BID MEETING:

- A. Place/Time: 10:00 a.m., January 7, 2020; Missouri School for the Deaf, Wheeler Hall, Eagle's Nest Conference Room, 505 East 5th Street, Fulton, Missouri 65251.
- B. Access to State of Missouri property requires presentation of a photo ID by all persons

6.0 HOW TO GET PLANS & SPECIFICATIONS:

- A. View Only Electronic bid sets are available at no cost or paper bid sets for a deposit of \$30 from American Document Solutions (ADS). MAKE CHECKS PAYABLE TO: American Document Solutions. Mail to: American Document Solutions, 1400 Forum Blvd., Suite 7A, Columbia, Missouri 65203. Phone 573-446-7768, Fax 573-355-5433, <https://www.adsplanroom.net>. NOTE: Prime contractors will be allowed a maximum of two bid sets at the deposit rate shown above. Other requesters will be allowed only one bid set at this rate. Additional bid sets or parts thereof may be obtained by any bidder at the cost of printing and shipping by request to American Document Solutions at the address shown above. **Bidder must secure at least one bid set to become a planholder.**
- B. **Refunds: Return plans and specifications in unmarked condition within 15 working days of bid opening to American Document Solutions, 1400 Forum Blvd., Suite 7A, Columbia, Missouri 65203. Phone 573-446-7768, Fax 573-355-5433. Deposits for plans not returned within 15 working days shall be forfeited.**
- C. Information for upcoming bids, including downloadable plans, specifications, Invitation for Bid, bid tabulation, award, addenda, and access to the ADS planholders list, is available on the Division of Facilities Management, Design and Construction's web site: <https://oa.mo.gov/facilities/bid-opportunities/bid-listing-electronic-plans>.

7.0 POINT OF CONTACT:

- A. Designer: Robert Rollings Architects LLC, Aaron Kennedy, phone # 660-829-9751, fax # 660-829-9752
- B. Project Manager: Brad Schaefer, phone # 573-526-0136, fax # 573-751-7277

8.0 GENERAL INFORMATION:

- A. The State reserves the right to reject any and all bids and to waive all informalities in bids. No bid may be withdrawn for a period of 20 working days subsequent to the specified bid opening time. The contractor shall pay not less than the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed, as determined by the Missouri Department of Labor and Industrial Relations and as set out in the detailed plans and specifications.
- B. Bid results will be available at <https://oa.mo.gov/facilities/bid-opportunities/bid-listing-electronic-plans> after it is verified that at least one bid is awardable and affordable.

Very Important MissouriBUYS Instructions to Help Submit a Bid Correctly

- A. The bidder shall submit his or her bid and all supporting documentation on MissouriBUYS eProcurement System. No hard copy bids shall be accepted. Go to <https://missouribuys.mo.gov> and register. The bidder must register before access is granted to the solicitation details and bidding is possible, however, the bidder can review a summary of the project by selecting “Bid Board” and then checking off “Open” under “Status” and “OA-FMDC-Contracts Chapter 8” under “Organization” in the boxes shown on the left margin.
- B. Once registered, log in.
1. Under “Solicitation” select “View Current Solicitations.” A new screen will open.
 2. Under “Filter by Agency” select “OA-FMDC-Contracts Chapter 8.”
 3. Under “Filter by Opp. No.” type in the State Project Number. Select “Submit.”
 4. Above the dark blue bar, select “Other Active Opportunities.”
 5. To see the Solicitation Summary, single click the Opp. No. (Project Number) and the summary will open. Single quick click each blue bar to open detailed information.
- C. Here are simplified instructions for uploading the bid to MissouriBUYS:
1. Find the solicitation by completing Steps 1 through 4 above.
 2. Select the three dots under “Actions.” Select “Add New Response.”
 3. When the Quote box opens, give the response a title and select “OK.”
 4. The detailed solicitation will open. Select “Check All” for the Original Solicitation Documents, open each document, and select “Accept.” If this step is not completed, a bid cannot be uploaded. Scroll to the bottom of the page and select “Add Attachments.” If you do not see this command, not all documents have been opened and accepted.
 5. The Supplier Attachments box will open. Select “Add Attachment” again.
 6. The Upload Documents box will open. Read the instructions for uploading. Disregard the “Confidential” check box.
 7. Browse and attach up to 5 files at a time. Scroll to bottom of box and select “Upload.” The Supplier Attachments box will open. Repeat Steps 5 through 7 if more than 5 files are to be uploaded.
 8. When the Supplier Attachments box opens again and uploading is complete, select “Done.” A message should appear that the upload is successful. If it does not, go to the Bidder Response tab and select “Submit.”
 9. The detailed solicitation will open. At the bottom select “Close.”
- D. Any time a bidder wants to modify the bid, he or she will have to submit a new one. FMDC will open the last response the bidder submits. The bidder may revise and submit the bid up to the close of the solicitation (bid date and time). Be sure to allow for uploading time so that the bid is successfully uploaded prior to the 1:30 PM deadline; we can only accept the bid if it is uploaded before the deadline.
- E. If you want to verify that you are uploading documents correctly, we encourage you to submit a fake bid early. Label the fake bid as such to distinguish it from the real bid. The contracts person you contact will let you know if your “bid” was received successfully. Please contact Drew Henrickson: 573-751-8128, drew.henrickson@oa.mo.gov; Marlene Blackburn: 573-522-6035, marlene.blackburn@oa.mo.gov; or Kelly Copeland: 573-522-2283, kelly.copeland@oa.mo.gov.
- F. If you are experiencing login issues, please contact Web Procure Support (Proactis) at 866-889-8533 anytime from 7:00 AM to 7:00 PM Central Time, Monday through Friday. If you try using a userid or password several times that is incorrect, the system will lock you out. Web Procure Support is the only option to unlock you! If you forget your userid or password, Web Procure Support will provide a temporary userid or password. Also, if it has been a while since your last successful login and you receive an “inactive” message, contact Web Procure (Proactis). If you are having a registration issue, you may contact Cathy Holliday at 573-751-3491 or by email: cathy.holliday@oa.mo.gov.

SECTION 002113 – INSTRUCTIONS TO BIDDERS

1.0 - SPECIAL NOTICE TO BIDDERS

- A. If awarded a contract, the Bidder's employees, and the employees of all subcontractors, who perform the work on the project, will be required to undergo a fingerprint background check and obtain a State of Missouri identification badge prior to beginning work on site. The Bidder should review the information regarding this requirement in Section 013513 – Site Security and Health Requirements prior to submitting a bid.
- B. The Bidder's prices shall include all city, state, and federal sales, excise, and similar taxes that may lawfully be assessed in connection with the performance of work, and the purchased of materials to be incorporated in the work. THIS PROJECT IS NOT TAX EXEMPT.

2.0 - BID DOCUMENTS

- A. The number of sets obtainable by any one (1) party may be limited in accordance with available supply.
- B. For the convenience of contractors, sub-contractors and suppliers, copies of construction documents are on file at the office of the Director, Division of Facilities Management, Design and Construction and on the Division's web site - <https://oa.mo.gov/facilities/bid-opportunities/bid-listing-electronic-plans>.

3.0 - BIDDERS' OBLIGATIONS

- A. Bidders must carefully examine the entire site of the work and shall make all reasonable and necessary investigations to inform themselves thoroughly as to the facilities available as well as to all the difficulties involved in the completion of all work in accordance with the specifications and the plans. Bidders are also required to examine all maps, plans and data mentioned in the specifications. No plea of ignorance concerning observable existing conditions or difficulties that may be encountered in the execution of the work under this contract will be accepted as an excuse for any failure or omission on the part of the contractor to fulfill in every detail all of the requirements of the contract, nor accepted as a basis for any claims for extra compensation.
- B. Under no circumstances will contractors give their plans and specifications to another contractor. Any bid received from a contractor whose name does not appear on the list of plan holders may be subject to rejection.

4.0 - INTERPRETATIONS

- A. No bidder shall be entitled to rely on oral interpretations as to the meaning of the plans and specifications or the acceptability of alternate products, materials, form or type of construction. Every request for interpretation shall be made in writing and submitted with all supporting documents not less than five (5) working days before opening of bids. Every interpretation made to a bidder will be in the form of an addendum and will be sent as promptly as is practicable to all persons to whom plans and specifications have been issued. All such addenda shall become part of the contract documents.
- B. Approval for an "acceptable substitution" issued in the form of an addendum as per Paragraph 4A above, and as per Article 3.1 of the General Conditions; ACCEPTABLE SUBSTITUTIONS shall constitute approval for use in the project of the product.
- C. An "acceptable substitution" requested after the award of bid shall be approved if proven to the satisfaction of the Owner and the Designer as per Article 3.1, that the product is acceptable in design, strength, durability, usefulness, and convenience for the purpose intended. Approval of the substitution after award is at the sole discretion of the Owner.
- D. A request for "Acceptable Substitutions" shall be made on the Section 006325 Substitution Request Form. The request shall be sent directly to the project Designer. A copy of said request should also be mailed to the Owner, Division of Facilities Management, Design and Construction, Post Office Box 809, Jefferson City, Missouri 65102.

5.0 - BIDS AND BIDDING PROCEDURE

- A. Bidders shall submit all submission forms and accompanying documents listed in SECTION 004113 – BID FORM, Article 5.0, ATTACHMENTS TO BID by the stated time or their bid will be rejected for being non-responsive.

Depending on the specific project requirements, **the following is a GENERIC list** of all possible bid forms that may be due with bid submittals and times when they may be due. Please check for specific project requirements on the proposal form (Section 004113). ***Not all of the following bid forms may be required to be submitted.***

Bid Submittal – due before stated date and time of bid opening (see IFB):

004113	Bid Form (all pages are always required)
004322	Unit Prices Form
004336	Proposed Subcontractors Form
004337	MBE/WBE/SDVE Compliance Evaluation Form
004338	MBE/WBE/SDVE Eligibility Determination for Joint Ventures
004339	MBE/WBE/SDVE GFE Determination
004340	SDVE Business Form
004541	Affidavit of Work Authorization

- B. All bids shall be submitted without additional terms and conditions, modification or reservation on the bid forms with each space properly filled. Bids not on these forms will be rejected.
- C. All bids shall be accompanied by a bid bond executed by the bidder and a duly authorized surety company, certified check, cashier's check or bank draft made payable to the Division of Facilities Management, Design and Construction, State of Missouri, in the amount indicated on the bid form, Section 004113. Failure of the contractor to submit the full amount required shall be sufficient cause to reject his bid. The bidder agrees that the proceeds of the check, draft or bond shall become the property of the State of Missouri, if for any reason the bidder withdraws his bid after closing, or if on notification of award refuses or is unable to execute tendered contract, provide an acceptable performance and payment bond, provide evidence of required insurance coverage and/or provide required copies of affirmative action plans within ten (10) working days after such tender.
- D. The check or draft submitted by the successful bidder will be returned after the receipt of an acceptable performance and payment bond and execution of the formal contract. Checks or drafts of all other bidders will be returned within a reasonable time after it is determined that the bid represented by same will receive no further consideration by the State of Missouri. Bid bonds will only be returned upon request.

6.0 - SIGNING OF BIDS

- A. A bid from an individual shall be signed as noted on the Bid Form.
- B. A bid from a partnership or joint venture shall require only one signature of a partner, an officer of the joint venture authorized to bind the venture or an attorney-in-fact. If the bid is signed by an officer of a joint venture or an attorney-in-fact, a document evidencing the individual's authority to execute contracts should be included with the bid form.
- C. A bid from a limited liability company (LLC) shall be signed by a manager or a managing member of the LLC.
- D. A bid from a corporation shall have the correct corporate name thereon and the signature of an authorized officer of the corporation manually written. Title of office held by the person signing for the corporation shall appear, along with typed name of said individual. Corporate license number shall be provided and, if a corporation organized in a state other than Missouri, a Certificate of Authority to do business in the State of Missouri shall be attached. In addition, for corporate proposals, the President or Vice-President should sign as the bidder. If the signator is other than the corporate president or vice president, the bidder must provide satisfactory evidence that the signator has the legal authority to bind the corporation.
- E. 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.
- F. The Bidder should include its corporate license number on the Bid Form and, if the corporation is organized in a state other than Missouri, a Certificate of Authority to do business in the State of Missouri shall be attached to the bid form.

7.0 - RECEIVING BID SUBMITTALS

- A. It is the bidder's sole responsibility to assure receipt by Owner of bid submittals by the date and time specified in the Invitation for Bid. Bids received after the date and time specified shall not be considered by the Owner.
- B. Bids must be submitted through the MissouriBUYS statewide eProcurement system (<https://www.missouribuys.mo.gov/>) in accordance with the instructions for that system. The Owner shall only accept bids submitted through MissouriBUYS. Bids received by the Owner through any other means, including hard copies, shall not be considered and will be discarded by the Owner unopened.
- C. To respond to an Invitation for Bid, the Bidder must first register with MissouriBUYS by going through the MissouriBUYS Home Page (<https://www.missouribuys.mo.gov/>), clicking the "Register" button at the top of the page, and completing the Vendor Registration. Once registered, the Bidder accesses its account by clicking the "Login" button at the top of the MissouriBUYS Home Page. Enter your USERID and PASSWORD, which the Bidder will select. Under Solicitations, select "View Current Solicitations." A new screen will open. Under "Filter by Agency" select "OA-FMDC-Contracts Chapter 8." Under "Filter by Opp. No." type in the State Project Number. Select "Submit." Above the dark blue bar, select "Other Active Opportunities." To see the Solicitation Summary, single click the Opp. No. (Project Number) and the summary will open. Single quick click each blue bar to open detailed information. The Bidder must read and accept the Original Solicitation Documents and complete all identified requirements. The Bidder should download and save all of the Original Solicitation Documents on its computer so that the Bidder can prepare its response to these documents. The Bidder should upload its completed response to the downloaded documents as an attachment to the electronic solicitation response.
- D. Step-by-step instructions for how a registered vendor responds to a solicitation electronically are provided in Section 001116 – Invitation For Bid.
- E. The Bidder shall submit its bid on the forms provided by the Owner on MissouriBUYS with each space fully and properly completed, including all amounts required for alternate bids, unit prices, cost accounting data, etc. The Owner may reject bids that are not on the Owner's forms or that do not contain all requested information.
- F. No Contractor shall stipulate in his bid any conditions not contained in the specifications or standard bid form contained in the contract documents. To do so may subject the Contractor's bid to rejection.
- G. The completed forms shall be without interlineations, alterations or erasures.

8.0 - MODIFICATION AND WITHDRAWAL OF BIDS

- A. Bidder may withdraw his bid at any time prior to scheduled closing time for receipt of bids, but no bidder may withdraw his bid for a period of twenty (20) working days after the scheduled closing time for receipt of bids.
- B. The Bidder shall modify his or her original bid by submitting a revised bid on MissouriBUYS.

9.0 - AWARD OF CONTRACT

- A. The Owner reserves the right to reject any and/or all bids and further to waive all informalities in bidding when deemed in the best interest of the State of Missouri.
- B. The Owner reserves the right to let other contracts in connection with the work, including but not by way of limitation, contracts for the furnishing and installation of furniture, equipment, machines, appliances and other apparatus.
- C. In awarding the contract the Owner may take into consideration the bidder's skill, facilities, capacity, experience, responsibility, previous work record, financial standing and the necessity of prompt and efficient completion of work herein described. Inability of any bidder to meet the requirements mentioned above may be cause for rejection of his bid. However, no contract will be awarded to any individual,

partnership or corporation, who has had a contract with the State of Missouri declared in default within the preceding twelve months.

- D. Award of alternates, if any, will be made in numerical order unless all bids received are such that the order of acceptance of alternates does not affect the determination of the low bidder.
- E. No bid shall be considered binding upon the Owner until the written contract has been properly executed, a satisfactory bond has been furnished, evidence of required insurance coverage, submittal of executed Section 004541, Affidavit of Work Authorization form, documentation evidencing enrollment and participation in a federal work authorization program has been received and an affirmative action plan submitted. Failure to execute and return the contract and associated documents within the prescribed period of time shall be treated, at the option of the Owner, as a breach of bidder's obligation and the Owner shall be under no further obligation to bidder.
- F. If the successful bidder is doing business in the State of Missouri under a fictitious name, he shall furnish to Owner, attached to the Bid Form, a properly certified copy of the certificate of Registration of Fictitious Name from the State of Missouri, and such certificate shall remain on file with the Owner.
- G. Any successful bidder which is a corporation organized in a state other than Missouri shall furnish to the Owner, attached to the Bid Form, a properly certified copy of its current Certificate of Authority to do business in the State of Missouri, such certificate to remain on file with the Owner. No contract will be awarded by the Owner unless such certificate is furnished by the bidder.
- H. Any successful bidder which is a corporation organized in the State of Missouri shall furnish at its own cost to the Owner, if requested, a Certificate of Good Standing issued by the Secretary of State, such certificate to remain on file with the Owner.
- I. Transient employers subject to Sections 285.230 and 285.234, RSMo, (out-of-state employers who temporarily transact any business in the State of Missouri) may be required to file a bond with the Missouri Department of Revenue. No contract will be awarded by the Owner unless the successful bidder certifies that he has complied with all applicable provisions of Section 285.230-234.
- J. Sections 285.525 and 285.530, RSMo, require business entities to enroll and participate in a federal work authorization program in order to be eligible to receive award of any state contract in excess of \$5,000. Bidders should submit with their bid an Affidavit of Work Authorization (Section 004541) along with appropriate documentation evidencing such enrollment and participation. Section-004541, Affidavit of Work Authorization is located on the MissouriBUYS solicitation for this project. Bidders must also submit an E-Verify Memorandum before the Owner may award a contract to the Bidder. Information regarding a E-Verify is located at <https://www.uscis.gov/e-verify/>. The contractor shall be responsible for ensuring that all subcontractors and suppliers associated with this contract enroll in E-Verify.

10.0 - CONTRACT SECURITY

- A. The successful bidder shall furnish a performance/payment bond as set forth in General Conditions Article 6.1 on a condition prior to the State executing the contract and issuing a notice to proceed.

11.0 - LIST OF SUBCONTRACTORS

- A. If required by "Section 004113 – Bid Form," each bidder must submit as part of their bid a list of subcontractors to be used in performing the work (Section 004336). The list must specify the name of the single designated subcontractor, for each category of work listed in "Section 004336 - Proposed Subcontractors Form." If work within a category will be performed by more than one subcontractor, the bidder must provide the name of each subcontractor and specify the exact portion of the work to be done by each. Failure to list the Bidder's firm, or a subcontractor for each category of work identified on the Bid Form or the listing of more than one subcontractor for any category without designating the portion of work to be performed by each shall be cause for rejection of the bid. If the bidder intends to perform any of the designated subcontract work with the use of his own employees, the bidder shall make that fact clear, by listing his own firm for the subject category. **If any category of work is left vacant, the bid shall be rejected.**

12.0 - WORKING DAYS

- A. Contract duration time is stated in working days and will use the following definition in determining the actual calendar date for contract completion:

1. Working days are defined as all calendar days except Saturdays, Sundays and the following State of Missouri observed holidays: New Year's Day, Martin Luther King, Jr. Day, Lincoln Day, Washington's Birthday, Truman Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day and Christmas Day.

13.0 - AMERICAN AND MISSOURI - MADE PRODUCTS AND FIRMS

- A. By signing the bid form and submitting a bid on this project, the Bidder certifies that it will use American and Missouri products as set forth in Article 1.7 of the General Conditions. Bidders are advised to review those requirements carefully prior to bidding.
- B. A preference shall be given to Missouri firms, corporations or individuals, or firms, corporations or individuals that maintain Missouri offices or places of business, when the quality of performance promised is equal or better and the price quoted is the same or less.
- C. Pursuant to Section 34.076, RSMo, a contractor or Bidder domiciled outside the boundaries of the State of Missouri shall be required, in order to be successful, to submit a bid the same percent less than the lowest bid submitted by a responsible contractor or Bidder domiciled in Missouri as would be required for such a Missouri domiciled contractor or Bidder to succeed over the bidding contractor or Bidder domiciled outside Missouri on a like contract or bid being let in the person's domiciliary state and, further, the contractor or Bidder domiciled outside the boundaries of Missouri shall be required to submit an audited financial statement as would be required of a Missouri domiciled contractor or Bidder on a like contract or bid being let in the domiciliary state of that contractor or Bidder.

14.0 - MBE/WBE/SDVE INSTRUCTIONS

A. Definitions:

1. "MBE" means a Minority Business Enterprise.
2. "MINORITY" has the same meaning as set forth in 1 C.S.R. 10-17.010.
3. "MINORITY BUSINESS ENTERPRISE" has the same meaning as set forth in section 37.020, RSMo.
4. "WBE" means a Women's Business Enterprise.
5. "WOMEN'S BUSINESS ENTERPRISE" has the same meaning as set forth in section 37.020, RSMo.
6. "SDVE" means a Service-Disabled Veterans Enterprise.
7. "SERVICE-DISABLED VETERAN" has the same meaning as set forth in section 34.074, RSMo.
8. "SERVICE-DISABLED VETERAN ENTERPRISE" has the same meaning as "Service-Disabled Veteran Business" set forth in section 34.074, RSMo.

B. MBE/WBE/SDVE General Requirements:

1. For all bids greater than \$100,000, the Bidder shall obtain MBE, WBE and SDVE participation in an amount equal to or greater than the percentage goals set forth in the Invitation for Bid and the Bid Form, unless the Bidder is granted a Good Faith Effort waiver by the Director of the Division, as set forth below. If the Bidder does not meet the MBE, WBE and SDVE goals, or make a good faith effort to do so, the Bidder shall be non-responsive, and its bid shall be rejected.
2. The Bidder should submit with its bid all of the information requested in the MBE/WBE/SDVE Compliance Evaluation Form for every MBE, WBE, or SDVE subcontractor or material supplier the Bidder intends to use for the contract work. The Bidder is required to submit all appropriate

MBE/WBE/SDVE documentation before the stated time and date set forth in the Invitation for Bid. If the Bidder fails to provide such information by the specified date and time, the Owner shall reject the bid.

3. The Director reserves the right to request additional information from a Bidder to clarify the Bidder's proposed MBE, WBE, and/or SDVE participation. The Bidder shall submit the clarifying information requested by the Owner within two (2) Working Days of receiving the request for clarification.
4. Pursuant to section 34.074, RSMo, a Bidder that is a SDVE doing business as Missouri firm, corporation, or individual, or that maintains a Missouri office or place of business, shall receive a three-point bonus preference in the contract award evaluation process. The bonus preference will be calculated and applied by reducing the bid amount of the eligible SDVE by three percent of the apparent low responsive bidder's bid. Based on this calculation, if the eligible SDVE's evaluation is less than the apparent low responsive bidder's bid, the eligible SDVE's 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 bid or the amount(s) of any contract awarded. In order to be eligible for the SDVE preference, the Bidder must complete and submit with its bid the Missouri Service Disabled Veteran Business Form, and any information required by the form. The form is available on the MissouriBUYS solicitation for this project.

A. Computation of MBE/WBE/SDVE Goal Participation:

1. A Bidder who is a MBE, WBE, or SDVE may count 100% of the contract towards the MBE, WBE or SDVE goal, less any amounts awarded to another MBE, WBE or SDVE. (NOTE: A MBE firm that bids as general contractor must obtain WBE and SDVE participation; a WBE firm that bids as a general contractor must obtain MBE and SDVE participation; and a SDVE firm that bids as general contractor must obtain MBE and WBE participation.) In order for the remaining contract amount to be counted towards the MBE, WBE or SDVE goal, the Bidder must complete the MBE/WBE/SDVE Compliance Evaluation Form (Section 004337) identifying itself as an MBE, WBE or SDVE.
2. The total dollar value of the work granted to a certified MBE, WBE or SDVE by the Bidder shall be counted towards the applicable goal.
3. Expenditures for materials and supplies obtained from a certified MBE, WBE, or SDVE supplier or manufacturer may be counted towards the MBE, WBE and SDVE goals, if the MBE, WBE, or SDVE assumes the actual and contractual responsibility for the provision of the materials and supplies.
4. The total dollar value of the work granted to a second or subsequent tier subcontractor or a supplier may be counted towards a Bidder's MBE, WBE and SDVE goals, if the MBE, WBE, or SDVE properly assumes the actual and contractual responsibility for the work.
5. The total dollar value of work granted to a certified joint venture equal to the percentage of the ownership and control of the MBE, WBE, or SDVE partner in the joint venture may be counted towards the MBE/WBE/SDVE goals.
6. Only expenditures to a MBE, WBE, or SDVE that performs a commercially useful function in the work may be counted towards the MBE, WBE and SDVE goals. A MBE, WBE, or SDVE performs a commercially useful function when it is responsible for executing a distinct element of the work and carrying out its responsibilities by actually performing, managing and supervising the work or providing supplies or manufactured materials.

B. Certification of MBE/WBE/SDVE Subcontractors:

1. In order to be counted towards the goals, an MBE or WBE must be certified by the State of Missouri, Office of Equal Opportunity and an SDVE must be certified by the State of Missouri, Office of Administration, Division of Purchasing and Material Management or by the Department of Veterans Affairs.

2. The Bidder may determine the certification status of a proposed MBE or WBE subcontractor or supplier by referring to the Office of Equal Opportunity (OEO)'s online MBE/WBE directory (<https://apps1.mo.gov/oeo/>). The Bidder may determine the eligibility of a SDVE subcontractor or supplier by referring to the Division of Purchasing and Materials Management's online SDVE directory (<http://oa.mo.gov/purchasing/vendor-information/missouri-service-disabled-veteran-business-enterprise-sdve-information>) or the Department of Veterans Affairs' directory (<https://www.vip.vetbiz.gov/>).
3. Additional information, clarifications, etc., regarding the listings in the directories may be obtained by calling the Division at (573)751-3339 and asking to speak to the Contract Specialist of record as shown in the Supplementary Conditions (Section 007300).

C. Waiver of MBE/WBE/SDVE Participation:

1. If a Bidder has made a good faith effort to secure the required MBE, WBE and/or SDVE participation and has failed, the Bidder shall submit with its bid the information requested in MBE/WBE/SDVE Good Faith Effort (GFE) Determination form. The GFE forms are located on the MissouriBUYS solicitation for this project. The Director will determine if the Bidder made a good faith effort to meet the applicable goals. If the Director determines that the Bidder did not make a good faith effort, the bid shall be rejected as being nonresponsive to the bid requirements. Bidders who demonstrate that they have made a good faith effort to include MBE, WBE, and/or SDVE participation will be determined to be responsive to the applicable participation goals, regardless of the percent of actual participation obtained, if the bid is otherwise acceptable.
2. In determining whether a Bidder has made a good faith effort to obtain MBE, WBE and/or SDVE participation, the Director may evaluate the factors set forth in 1 CSR 30-5.010(6)(C) and the following:
 - a. The amount of actual participation obtained;
 - b. How and when the Bidder contacted potential MBE, WBE, and SDVE subcontractors and suppliers;
 - c. The documentation provided by the Bidder to support its contacts, including whether the Bidder provided the names, addresses, phone numbers, and dates of contact for MBE/WBE/SDVE firms contacted for specific categories of work;
 - d. If project information, including plans and specifications, were provided to MBE/WBE/SDVE subcontractors;
 - e. Whether the Bidder made any attempts to follow-up with MBE, WBE or SDVE firms prior to bid;
 - f. Amount of bids received from any of the subcontractors and/or suppliers that the Bidder contacted;
 - g. The Bidder's stated reasons for rejecting any bids;
3. If no bidder has obtained any participation in a particular category (MBE/WBE/SDVE) or made a good faith effort to do so, the Director may waive that goal rather than rebid.

D. Contractor MBE/WBE/SDVE Obligations

1. If awarded a contract, the Bidder will be contractually required to subcontract with or obtain materials from the MBE, WBE, and SDVE firms listed in its bid, in amounts equal to or greater than the dollar amount bid, unless the amount is modified in writing by the Owner.
2. If the Contractor fails to meet or maintain the participation requirements contained in the Contractor's bid, the Contractor must satisfactorily explain to the Director why it cannot comply

with the requirement and why failing meeting the requirement was beyond the Contractor's control. If the Director finds the Contractor's explanation unsatisfactory, the Director may take any appropriate action including, but not limited to:

- a. Declaring the Contractor ineligible to participate in any contracts with the Division for up to twelve (12) months (suspension); and/or
 - b. Declaring the Contractor be non-responsive to the Invitation for Bid, or in breach of contract and rejecting the bid or terminating the contract.
3. If the Contractor replaces an MBE, WBE, or SDVE during the course of this contract, the Contractor shall replace it with another MBE, WBE, or SDVE or make a good faith effort to do so. All MBE, WBE and SDVE substitutions must be approved by the Director.
 4. The Contractor shall provide the Owner with regular reports on its progress in meeting its MBE/WBE/SDVE obligations. At a minimum, the Contractor shall report the dollar-value of work completed by each MBE, WBE, or SDVE during the preceding month and the cumulative total of work completed by each MBE, WBE or SDVE to date with each monthly application for payment. The Contractor shall also make a final report, which shall include the total dollar-value of work completed by each MBE, WBE, and SDVE during the entire contract.

**STATE OF MISSOURI
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION
*MBE/WBE/SDVE DIRECTORY***

The MBE/WBE Directory for goods and services is maintained by the Office of Equal Opportunity (OEO). The current Directory can be accessed at the following web address:

<https://apps1.mo.gov/MWBCertifiedFirms/>

Please note that you may search by MBE, WBE, or both as well as by region, location of the business by city or state, as well as by commodity or service.

The SERVICE DISABLED VETERAN ENTERPRISE (SDVE) Directory (s) may be accessed at the following web addresses:

<https://oa.mo.gov/sites/default/files/sdvelisting.pdf>

<https://www.vip.vetbiz.va.gov>

ARTICLE 4. CONTRACT SUM

The Owner shall pay the Contractor for the prompt, faithful and efficient performance of the conditions and undertakings of this contract, subject to additions, and deductions as provided herein, in current funds the sum of:

Base Bid: \$

DELETE THE ALTERNATE INFORMATION IF NOT USED

The Owner accepts the following Alternate Bids:

Alternate One: \$

TOTAL CONTRACT AMOUNT: (\$CONTRACT AMOUNT)

UNIT PRICES: The Owner accepts the following Unit Prices: NOT APPLICABLE

ARTICLE 5. PREVAILING WAGE RATE

It is understood and agreed by and between the parties that not less than the prevailing hourly rate of wages shall be paid for work of a similar character in the locality in which the work is performed, and not less than the prevailing hourly rate of wages for legal holiday and overtime work in the locality in which the work is performed, both as determined by the Department of Labor and Industrial Relations or as determined by the court on appeal, to all workmen employed by or on behalf of the Contractor or any subcontractor, exclusive of maintenance work. Only such workmen as are directly employed by the Contractor or his subcontractors, in actual construction work on the site shall be deemed to be employed.

When the hauling of materials or equipment includes some phase of the construction other than the mere transportation to the site of the construction, workmen engaged in this dual capacity shall be deemed to be employed directly on the project and entitled to the prevailing wage.

ARTICLE 6. MINORITY/WOMEN/SERVICE DISABLED VETERAN BUSINESS ENTERPRISE PARTICIPATION

The Contractor has been granted a waiver of the 10% MBE and 10% WBE and 3% SDVE participation goals. The Contractor agrees to secure the MBE/WBE/SDVE participation amounts for this project as follows: (OR)

The Contractor has met the MBE/WBE/SDVE participation goals and agrees to secure the MBE/WBE/SDVE participation amounts for this project as follows:

MBE/WBE/SDVE Firm:	Subcontract Amt:\$	
MBE/WBE/SDVE Firm:	Subcontract Amt:\$	
MBE/WBE/SDVE Firm:	Subcontract Amt:\$	
		Total \$

MBE/WBE/SDVE assignments identified above shall not be changed without a Contract Change signed by the Owner.

The Director of the Division of Facilities Management, Design and Construction or his Designee shall be the final authority to resolve disputes and disagreements between the Contractor and the MBE/WBE/SDVE firms listed above when such disputes impact the subcontract amounts shown above.

ARTICLE 7. CONTRACT DOCUMENTS

Contract documents shall consist of the following component parts:

- 1. Division 0, with executed forms
- 2. Division 1
- 3. Executed Construction Contract Form
- 4. The Drawings
- 5. The Technical Specifications
- 6. Addenda
- 7. Contractor's Proposal as accepted by the Owner

By signature below, the parties hereby execute this contract document.

APPROVED:

 Mark Hill, P.E., Director
 Division of Facilities Management,
 Design and Construction

 Contractor's Authorized Signature

DELETE IF PRIVATE OR PARTNERSHIP

I, Corporate Secretary, certify that I am Secretary of the corporation named above and that (CONTRACTOR NAME), who signed said contract on behalf of the corporation, was then (TITLE) of said corporation and that said contract was duly signed for and in behalf of the corporation by authority of its governing body, and is within the scope of its corporate powers.

Corporate Secretary



STATE OF MISSOURI
 OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION
AFFIDAVIT FOR AFFIRMATIVE ACTION

PROJECT NUMBER

NAME

First being duly sworn on oath states: that

he/she is the sole proprietor partner officer or manager or managing member of

NAME

a sole proprietorship partnership
 limited liability company (LLC)

or corporation, and as such, said proprietor, partner, or officer is duly authorized to make this

affidavit on behalf of said sole proprietorship, partnership, or corporation; that under the contract known as

PROJECT TITLE

Less than 50 persons in the aggregate will be employed and therefore, the applicable Affirmative Action requirements as set forth in Article 1.4 of the General Conditions of the State of Missouri have been met.

PRINT NAME & SIGNATURE

DATE

--

NOTARY INFORMATION

NOTARY PUBLIC EMBOSSER SEAL	STATE OF	COUNTY (OR CITY OF ST. LOUIS)	USE RUBBER STAMP IN CLEAR AREA BELOW
	SUBSCRIBED AND SWORN BEFORE ME, THIS		
	DAY OF	YEAR	
	NOTARY PUBLIC SIGNATURE	MY COMMISSION EXPIRES	
NOTARY PUBLIC NAME (TYPED OR PRINTED)			

SECTION 006113 - PERFORMANCE AND PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS, THAT we _____

as principal, and _____

_____ as Surety, are held and firmly bound unto the

STATE OF MISSOURI. in the sum of _____ Dollars (\$ _____)

for payment whereof the Principal and Surety bind themselves, their heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

WHEREAS, the Principal has, by means of a written agreement dated the _____

day of _____, 20_____, enter into a contract with the State of Missouri for

(Insert Project Title and Number)

NOW, THEREFORE, if the Principal shall faithfully perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the State of Missouri, with or without notice to the Surety and during the life of any guaranty required under the contract; and shall also faithfully perform and fulfill all undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made with or without notice to the Surety; and shall also promptly make payment for materials incorporated, consumed or used in connection with the work set forth in the contract referred to above, and all insurance premiums, both compensation and all other kinds of insurance, on said work, and for all labor performed on such work, whether by subcontractor or otherwise, at not less than the prevailing hourly rate of wages for work of a similar character (exclusive of maintenance work) in the locality in which the work is performed and not less than the prevailing hourly rate of wages for legal holiday and overtime work (exclusive of maintenance work) in the locality in which the work is performed both as determined by the Department of Labor and Industrial Relations or determined by the Court of Appeal, as provided for in said contract and in any and all duly authorized modifications of said contract that may be hereafter made, with or without notice to the Surety, then, this obligation shall be void and of no effect, but it is expressly understood that if the Principal should make default in or should fail to strictly, faithfully and efficiently do, perform and comply with any or more of the covenants, agreements, stipulations, conditions, requirements or undertakings, as specified in or by the terms of said contract, and with the time therein named, then this obligation shall be valid and binding upon each of the parties hereto and this bond shall remain in full force and effect; and the same may be sued on at the instance of any material man, laborer, mechanic, subcontractor, individual, or otherwise to whom such payment is due, in the name of the State of Missouri, to the use of any such person.

AND, IT IS FURTHER specifically provided that any modifications which may hereinafter be made in the terms of the contract or in the work to be done under it or the giving by the Owner of any extension of the time for the performance of the contract or any other forbearance on the part of either the Owner or the Principal to the other, shall not in any way release the Principal and the Surety, or either or any of them, their heirs, executors, administrators and successors, from their liability hereunder, notice to the Surety of any such extension, modifications or forbearance being hereby waived.

IN WITNESS WHEREOF, the above bounden parties have executed the within instrument this _____ day of _____, 20 ____.

AS APPLICABLE:

AN INDIVIDUAL

Name: _____

Signature: _____

A PARTNERSHIP

Name of Partner: _____

Signature of Partner: _____

Name of Partner: _____

Signature of Partner: _____

CORPORATION

Firm Name: _____

Signature of President: _____

SURETY

Surety Name: _____

Attorney-in-Fact: _____

Address of Attorney-in-Fact: _____

Telephone Number of Attorney-in-Fact: _____

Signature Attorney-in-Fact: _____

NOTE: Surety shall attach Power of Attorney



STATE OF MISSOURI
 OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION
PRODUCT SUBSTITUTION REQUEST

PROJECT NUMBER

PROJECT TITLE AND LOCATION

CHECK APPROPRIATE BOX

- SUBSTITUTION PRIOR TO BID OPENING**
 (Minimum of (5) working days prior to receipt of Bids as per Article 4 – Instructions to Bidders)
- SUBSTITUTION FOLLOWING AWARD**
 (Maximum of (20) working days from Notice to Proceed as per Article 3 – General Conditions)

FROM: BIDDER/CONTRACTOR (PRINT COMPANY NAME)

TO: ARCHITECT/ENGINEER (PRINT COMPANY NAME)

Bidder/Contractor hereby requests acceptance of the following product or systems as a substitution in accordance with provisions of Division One of the Bidding Documents:

SPECIFIED PRODUCT OR SYSTEM

SPECIFICATION SECTION NO.

SUPPORTING DATA

- Product data for proposed substitution is attached (include description of product, standards, performance, and test data)
- Sample Sample will be sent, if requested

QUALITY COMPARISON

	SPECIFIED PRODUCT	SUBSTITUTION REQUEST
NAME, BRAND		
CATALOG NO.		
MANUFACTURER		
VENDOR		

PREVIOUS INSTALLATIONS

PROJECT	ARCHITECT/ENGINEER	DATE INSTALLED
LOCATION		

SIGNIFICANT VARIATIONS FROM SPECIFIED PRODUCT

REASON FOR SUBSTITUTION

DOES PROPOSED SUBSTITUTION AFFECT OTHER PARTS OF WORK?

YES NO

IF YES, EXPLAIN

SUBSTITUTION REQUIRES DIMENSIONAL REVISION OR REDESIGN OF STRUCTURE OR A/E WORK

YES NO

BIDDER'S/CONTRACTOR'S STATEMENT OF CONFORMANCE OF PROPOSED SUBSTITUTION TO CONTRACT REQUIREMENT:

We have investigated the proposed substitution. We believe that it is equal or superior in all respects to specified product, except as stated above; that it will provide the same Warranty as specified product; that we have included complete implications of the substitution; that we will pay redesign and other costs caused by the substitution which subsequently become apparent; and that we will pay costs to modify other parts of the Work as may be needed, to make all parts of the Work complete and functioning as a result of the substitution.

BIDDER/CONTRACTOR

DATE

REVIEW AND ACTION

Resubmit Substitution Request with the following additional information:

Substitution is accepted.

Substitution is accepted with the following comments:

Substitution is not accepted.

ARCHITECT/ENGINEER

DATE



PROJECT NUMBER

KNOW ALL MEN BY THESE PRESENT THAT: hereinafter called "Subcontractor" who heretofore entered into an agreement with hereinafter called "Contractor", for the performance of work and/or furnishing of material for the construction of the project entitled

(PROJECT TITLE, PROJECT LOCATION, AND PROJECT NUMBER)

at

(ADDRESS OF PROJECT)

for the State of Missouri (Owner) which said subcontract is by this reference incorporated herein, in consideration of such final payment by Contractor.

DOES HEREBY:

1. ACKNOWLEDGE that they have been **PAID IN FULL** all sums due for work and materials contracted or done by their Subcontractors, Material Vendors, Equipment and Fixture Suppliers, Agents and Employees, or otherwise in the performance of the Work called for by the aforesaid Contract and all modifications or extras or additions thereto, for the construction of said project or otherwise.
2. RELEASE and fully, finally, and forever discharge the Owner from any and all suits, actions, claims, and demands for payment for work performed or materials supplied by Subcontractor in accordance with the requirements of the above referenced Contract.
1. REPRESENT that all of their Employees, Subcontractors, Material Vendors, Equipment and Fixture Suppliers, and everyone else has been **paid in full** all sums due them, or any of them, in connection with performance of said Work, or anything done or omitted by them, or any of them in connection with the construction of said improvements, or otherwise.

DATED this day of , 20 .

NAME OF SUBCONTRACTOR

BY (TYPED OR PRINTED NAME)

SIGNATURE

TITLE

ORIGINAL: FILE/Closeout Documents



STATE OF MISSOURI
 OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION
MBE/WBE/SDVE PROGRESS REPORT
 SUBMIT WITH **ALL** INVOICES: (PLEASE CHECK APPROPRIATE BOX BELOW)
CONSULTANT CONSTRUCTION

INVOICE NO.	PROJECT NUMBER
CHECK IF FINAL <input type="checkbox"/> FINAL	DATE

PROJECT TITLE
PROJECT LOCATION
FIRM
TOTAL CONTRACT AMOUNT \$

THE PERCENTAGE AND DOLLAR AMOUNT OF THIS PROJECT THAT ARE TO BE MBE/WBE/SDVE AS INDICATED IN THE ORIGINAL CONTRACT: % and \$.

CHECK MBE WBE SDVE	ITEM OF WORK	TOTAL AMOUNT OF SUBCONTRACT	\$ AMOUNT & % COMPLETE (PAID-TO-DATE)	CONSULTANT/SUBCONSULTANT OR CONTRACTOR/SUBCONTRACTOR/SUPPLIER NAME, ADDRESS, CONTACT, AND PHONE NUMBER
MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE <input type="checkbox"/>		\$	\$ %	- -
MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE <input type="checkbox"/>		\$	\$ %	- -
MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE <input type="checkbox"/>		\$	\$ %	- -
MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE <input type="checkbox"/>		\$	\$ %	- -
MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVE <input type="checkbox"/>		\$	\$ %	- -

ORIGINAL: Attach to ALL Progress and Final Payments



STATE OF MISSOURI
 OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION
AFFIDAVIT – COMPLIANCE WITH PREVAILING WAGE LAW

PROJECT NUMBER

Before me, the undersigned Notary Public, in and for the County of _____

State of _____ personally came and appeared _____

(NAME)

_____ of the _____

(POSITION) (NAME OF THE COMPANY)

(a corporation) (a partnership) (a proprietorship) and after being duly sworn did depose and say that all provisions and requirements set out in Chapter 290, Sections 290.210 through and including 290.340, Missouri Revised Statutes, pertaining to the payment of wages to workmen employed on public works project have been fully satisfied and there has been no exception to the full and completed compliance with said provisions and requirements and with Wage Determination No: _____ issued by the Department of Labor and Industrial Relations, State of Missouri on the _____ day of _____ 20 ____ in carrying out the contract and working in connection with _____

(NAME OF PROJECT)

Located at _____ in _____ County

(NAME OF THE INSTITUTION)

Missouri, and completed on the _____ day of _____ 20 ____

SIGNATURE

NOTARY INFORMATION

NOTARY PUBLIC EMBOSSEY OR BLACK INK RUBBER STAMP SEAL	STATE	COUNTY (OR CITY OF ST. LOUIS)
	SUBSCRIBED AND SWORN BEFORE ME, THIS	
	DAY OF	YEAR
	NOTARY PUBLIC SIGNATURE	MY COMMISSION EXPIRES
NOTARY PUBLIC NAME (TYPED OR PRINTED)		USE RUBBER STAMP IN CLEAR AREA BELOW

FILE: Closeout Documents

GENERAL CONDITIONS

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SECTION 007213 - GENERAL CONDITIONS

- A. These General Conditions apply to each section of these specifications. The Contractor is subject to the provisions contained herein.
- B. The General Conditions are intended to define the relationship of the Owner, the Designer and the Contractor thereby establishing certain rules and provisions governing the operation and performance of the work so that the work may be performed in a safe, orderly, expeditious and workmanlike manner.

ARTICLE 1 – GENERAL PROVISIONS

ARTICLE 1.1 - DEFINITIONS

- A. As used in these contract documents, the following terms shall have the meanings and refer to the parties designated in these definitions.
 - 1. **"COMMISSIONER"**: The Commissioner of the Office of Administration.
 - 2. **"CONSTRUCTION DOCUMENTS"**: The "Construction Documents" shall consist of the Project Manual, Drawings and Addenda.
 - 3. **"CONSTRUCTION REPRESENTATIVE:"** Whenever the term "Construction Representative" is used, it shall mean the Owner's Representative at the work site.
 - 4. **"CONTRACTOR"**: Party or parties who have entered into a contract with the Owner to furnish work under these specifications and drawings.
 - 5. **"DESIGNER"**: When the term "Designer" is used herein, it shall refer to the Architect, Engineer, or Consultant of Record specified and defined in Paragraph 2.0 of the Supplemental Conditions, or his duly authorized representative. The Designer may be either a consultant or state employee.
 - 6. **"DIRECTOR"**: Whenever the term "Director" is used, it shall mean the Director of the Division of Facilities Management, Design and Construction or his Designee, representing the Office of Administration, State of Missouri. The Director is the agent of the Owner.
 - 7. **"DIVISION"**: Shall mean the Division of Facilities Management, Design and Construction, State of Missouri.

- 8. **"INCIDENTAL JOB BURDENS"**: Shall mean those expenses relating to the cost of work, incurred either in the home office or on the job-site, which are necessary in the course of doing business but are incidental to the job. Such costs include office supplies and equipment, postage, courier services, telephone expenses including long distance, water and ice and other similar expenses.
- 9. **"JOINT VENTURE"**: An association of two (2) or more businesses to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge.
- 10. **"OWNER"**: Whenever the term "Owner" is used, it shall mean the State of Missouri.
- 11. **"PROJECT"**: Wherever the term "Project" is used, it shall mean the work required to be completed by the construction contract.
- 12. **"PROJECT MANUAL"**: The "Project Manual" shall consist of Introductory Information, Invitation for Bid, Instructions to Bidders, Bid Documents, Additional Information, Standard Forms, General Conditions, Supplemental General Conditions, General Requirements and Technical Specifications.
- 13. **"SUBCONTRACTOR"**: Party or parties who contract under, or for the performance of part or this entire Contract between the Owner and Contractor. The subcontract may or may not be direct with the Contractor.
- 14. **"WORK"**: Labor, material, supplies, plant and equipment required to perform and complete the service agreed to by the Contractor in a safe, expeditious, orderly and workmanlike manner so that the project shall be complete and finished in the best manner known to each respective trade.
- 15. **"WORKING DAYS"**: are all calendar days except Saturdays, Sundays and the following holidays: New Year's Day, Martin Luther King, Jr. Day, Lincoln Day, Washington's Birthday (observed), Truman Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day (observed), Thanksgiving Day, Christmas Day.

ARTICLE 1.2 DRAWINGS AND SPECIFICATIONS

- A. In case of discrepancy between drawings and specifications, specifications shall govern. Should discrepancies in architectural drawings, structural drawings and mechanical drawings occur, architectural drawings shall govern and, in case of

conflict between structural and mechanical drawings, structural drawings shall govern.

- B. Specifications are separated into titled divisions for convenience of reference only and to facilitate letting of contracts and subcontracts. The Contractor is responsible for establishing the scope of work for subcontractors, which may cross titled divisions. Neither the Owner nor Designer will establish limits and jurisdiction of subcontracts.
- C. Figured dimensions take precedence over scaled measurements and details over smaller scale general drawings. In the event of conflict between any of the documents contained within the contract, the documents shall take precedence and be controlling in the following sequence: addenda, supplementary general conditions, general conditions, division 1 specifications, technical division specifications, drawings, bid form and instructions to bidders.
- D. Anything shown on drawings and not mentioned in these specifications or vice versa, as well as any incidental work which is obviously necessary to complete the project within the limits established by the drawings and specifications, although not shown on or described therein, shall be performed by the Contractor at no additional cost as a part of his contract.
- E. Upon encountering conditions differing materially from those indicated in the contract documents, the Contractor shall promptly notify the Designer and Construction Representative in writing before such conditions are disturbed. The Designer shall promptly investigate said conditions and report to the Owner, with a recommended course of action. If conditions do materially differ and cause an increase or decrease in contract cost or time required for completion of any portion of the work, a contract change will be initiated as outlined in Article 4 of these General Conditions.
- E. Only work included in the contract documents is authorized, and the Contractor shall do no work other than that described therein or in accordance with appropriately authorized and approved contract changes.

ARTICLE 1.3 - COMPLIANCE WITH LAWS, PERMITS, REGULATIONS AND INSPECTIONS

- A. Since the Owner is the State of Missouri, municipal or political subdivisions, zoning ordinances, construction codes (other than licensing of trades), and other like ordinances are not applicable to construction on Owner's property, and Contractor will not be required to submit drawings and specifications to any municipal or political subdivision, authority, obtain construction permits or any other licenses (other

than licensing of trades) or permits from or submit to inspections by any municipality or political subdivision relating to the construction for this project. All permits or licenses required by municipality or political subdivision for operation on property not belonging to Owner shall be obtained by and paid for by Contractor. Each Contractor shall comply with all applicable laws, ordinances, rules and regulations that pertain to the work of this contract.

- B. Contractors, subcontractors and their employees engaged in the businesses of electrical, mechanical, plumbing, carpentry, sprinkler system work, and other construction related trades shall be licensed to perform such work by the municipal or political subdivision where the project is located, if such licensure is required by local code. Local codes shall dictate the level (master, journeyman, and apprentice) and the number, type and ratio of licensed tradesmen required for this project within the jurisdiction of such municipal or political subdivision.
- C. Equipment and controls manufacturers and their authorized service and installation technicians that do not maintain an office within the jurisdiction of the municipal or political subdivision but are a listed or specified contractor or subcontractor on this project are exempt from Paragraph 1.3 B above.
- D. The Contractor shall post a copy of the wage determination issued for the project and included as a part of the contract documents, in a prominent and easily accessible location at the site of construction for the duration of the project.
- E. Any contractor or subcontractor to such contractor at any tier signing a contract to work on this project shall provide a ten-hour Occupational Safety and Health Administration (OSHA) construction safety program for their on-site employees which includes a course in construction safety and health approved by OSHA or a similar program approved by the Department of Labor and Industrial Relations which is at least as stringent as an approved OSHA program. The contractor shall forfeit as a penalty to the public body on whose behalf the contract is made or awarded, two thousand five hundred dollars plus one hundred dollars for each employee employed by the contractor or subcontractor, for each calendar day, or portion thereof, such employee is employed without the required training.

ARTICLE 1.4 - NONDISCRIMINATION IN EMPLOYMENT

- A. The Contractor and his subcontractors will not discriminate against individuals based on race, color, religion, national origin, sex, disability, or

age, but may use restrictions which relate to bona fide occupational qualifications. Specifically, the Contractor and his subcontractors shall not discriminate:

1. Against recipients of service on the basis of race, color, religion, national origin, sex, disability or age.
2. Against any employee or applicant, for employment on the basis of race, color, religion, national origin, sex or otherwise qualified disability status.
3. Against any applicant for employment or employee on the basis of age, where such applicant or employee is between ages 40 and 70 and where such Contractor employs at least 20 persons.
4. Against any applicant for employment or employee on the basis of that person's status as a disabled or Vietnam-era veteran.

The Contractor and his Subcontractors will take affirmative action to insure applicants for employment and employees are treated equally without regard to race, color, religion, national origin, sex, disability, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion and transfer; recruitment or recruitment advertising; and selection for training, including apprenticeship. The Contractor and his Subcontractors will give written notice of their commitments under this clause to any labor union with which they have bargaining or other agreements.

- B. The Contractor and his Subcontractors shall develop, implement, maintain and submit in writing to the Owner an affirmative action program if at least fifty (50) persons in the aggregate are employed under this contract. If less than fifty (50) persons in the aggregate are to be employed under this contract, the Contractor shall submit, in lieu of the written affirmative action program, a properly executed Affidavit for Affirmative Action in the form included in the contract specifications. For the purpose of this section, an "affirmative action program" means positive action to influence all employment practices (including, but not limited to, recruiting, hiring, promoting and training) in providing equal employment opportunity regardless of race, color, sex, national origin, religion, age (where the person affected is between age 40 and 70), disabled and Vietnam-era veteran status, and disability. Such "affirmative action program" shall include:

1. A written policy statement committing the total organization to affirmative action and

assigning management responsibilities and procedures for evaluation and dissemination;

2. The identification of a person designated to handle affirmative action;
3. The establishment of non-discriminatory selection standards, objective measures to analyze recruitment, an upward mobility system, a wage and salary structure, and standards applicable to lay-off, recall, discharge, demotion and discipline;
4. The exclusion of discrimination from all collective bargaining agreements; and
5. Performance of an internal audit of the reporting system to monitor execution and to provide for future planning.

In the enforcement of this non-discrimination clause, 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.

- C. In the event of the Contractor's or his subcontractor's noncompliance with any provisions of this Article of the Contract, the Owner may cancel this contract in whole or in part or require the Contractor to terminate his contract with the subcontractor.

ARTICLE 1.5 - ANTI-KICKBACK

- A. No employee of the division, shall have or acquire any pecuniary interest, whether direct or indirect, in this contract or in any part hereof. No officer, employee, designer, attorney, or administrator of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the project, shall have or acquire any pecuniary interest, whether direct or indirect, in this contract, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

ARTICLE 1.6 - PATENTS AND ROYALTIES

- A. The Contractor shall hold and save the Owner and its officers, agents, servants and employees harmless from liabilities of any nature or kind, including cost and expenses, for, or on account of, any patented or unpatented invention, process, article or appliance manufactured or used in the performance of this contract, including its use by the Owner, unless otherwise specifically stipulated in the contract documents.
- B. If the Contractor uses any design, device or materials 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 prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or his sureties shall indemnify and save harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or materials 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 obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

ARTICLE 1.7 - PREFERENCE FOR AMERICAN AND MISSOURI PRODUCTS AND SERVICES

- A. By virtue of statutory authority a preference will be given to Missouri labor and to products of mines, forests and quarries of the state of Missouri when they are found in marketable quantities in the state, and all such materials shall be of the best quality and suitable character that can be obtained at reasonable market prices, all as provided for in Section 8.280, Missouri Revised Statutes and Cumulative Supplements.
- B. Furthermore, pursuant to Section 34.076 Missouri Revised Statutes and Cumulative Supplements, a preference shall be given to those persons doing business as Missouri firms, corporations, or individuals, or which maintain Missouri offices or places of business, when the quality of performance promised is equal or better and the price quoted is the same or less. In addition, in order for a non-domiciliary bidder to be successful, his bid must be that same percentage lower than a domiciliary Missouri bidder's bid, as would be required for a Missouri bidder to successfully bid in the non-domiciliary state.
- C. In accordance with the Missouri Domestic Products Procurement Act Section 34.350 RSMo and Cumulative Supplements any manufactured goods or commodities used or supplied in the performance of this contract or any subcontract thereto shall be manufactured, assembled or produced in the United States, unless the specified products are not manufactured, assembled or produced in the United States in sufficient quantities to meet the agency's requirements or cannot be manufactured, assembled or produced in the United States within the necessary time in sufficient quantities to meet the contract requirements, or if obtaining the specified products manufactured, assembled or produced in the

United States would increase the cost of this contract for purchase of the product by more than ten percent.

ARTICLE 1.8 - COMMUNICATIONS

- A. All notices, requests, instructions, approvals and claims must be in writing and shall be delivered to the Designer and copied to the Construction Representative for the project except as required by Article 1.12 Disputes and Disagreements, or as otherwise specified by the Owner in writing as stated in Section 012600. Any such notice shall be deemed to have been given as of the time of actual receipt.
- B. The Contractor shall attend on-site progress and coordination meetings, as scheduled by the Construction Representative, no less than once a month.
- C. The Contractor shall ensure that major subcontractors and suppliers shall attend monthly progress meetings as necessary to coordinate the work, and as specifically requested by the Construction Representative.

ARTICLE 1.9 - SEPARATE CONTRACTS AND COOPERATION

- A. The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.
- B. The Contractor shall consult the drawings for all other contractors in connection with this work. Any work conflicting with the above shall be brought to the attention of the Owner's Representative before the work is performed. If the Contractor fails to do this, and constructs any work which interferes with the work of another contractor, the Contractor shall remove any part so conflicting and rebuild same, as directed by the Owner's Representative at no additional cost to the Owner.
- C. Each contractor shall be required to coordinate his work with other contractors so as to afford others reasonable opportunity for execution of their work. No contractor shall delay any other contractor by neglecting to perform contract work at the proper time. If any contractor causes delay to another, they shall be liable directly to that contractor for such delay in addition to any liquidated damages which might be due the Owner.
- D. Should the Contractor or project associated subcontractors refuse to cooperate with the instructions and reasonable requests of other Contractors or other subcontractors in the overall

coordinating of the work, the Owner may take such appropriate action and issue directions, as required, to avoid unnecessary and unwarranted delays.

- E. Each Contractor shall be responsible for damage done to Owner's or other Contractor's property by him/her or workers in his employ through their fault or negligence.
- F. Should a Contractor sustain any damage through any act or omission of any other Contractor having a contract with the Owner, the Contractor so damaged shall have no claim or cause of action against the Owner for such damage, but shall have a claim or cause of action against the other Contractor to recover any and all damages sustained by reason of the acts or omissions of such Contractor. The phrase "acts or omissions" as used in this section shall be defined to include, but not be limited to, any unreasonable delay on the part of any such contractors.

ARTICLE 1.10 - ASSIGNMENT OF CONTRACT

- A. No assignment by Contractor of any amount or any part of this contract or of the funds to be received there under will be recognized unless such assignment has had the written approval of the Director and the surety has been given due notice of such assignment and has furnished written consent thereto. 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 this contract and to claims or 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 1.11 - INDEMNIFICATION

- A. Contractor agrees to indemnify and save harmless Owner and its respective commissioners, officers, officials, agents, consultants and employees and Designer, their agents, servants and employees, from and against any and all liability for damage arising from injuries to persons or damage to property occasioned by any acts or omissions of Contractor, any subcontractors, agents, servants or employees, including any and all expense, legal or otherwise, which may be incurred by Owner or Designer, its agents, servants or employees, in defense of any claim, action or suit.
- B. The obligations of the Contractor under this paragraph shall not extend to the liability of the Designer, his agents or employees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, contract changes, design or specifications, or (2) giving of or the failure to

give directions or instructions by the Designer, his agents or employees as required by this contract documents provided such giving or failure to give is the primary cause of the injury or damage.

ARTICLE 1.12 - DISPUTES AND DISAGREEMENTS

- A. It is hereby expressly agreed and understood that in case any controversy or difference of opinion arises during construction, best efforts will be given to resolution at the field level. Should those efforts be unsuccessful, the Contractor has the right to appeal in writing, the decision of the Director's Designee to the Director at Room 730 Truman Building, P.O. Box 809, Jefferson City, Missouri 65102. The decision of the Director shall be final and binding on all parties.

ARTICLE 2 -- OWNER/DESIGNER RESPONSIBILITIES

- A. The Owner shall give all orders and directions contemplated under this contract relative to the execution of the work. During progress of work the Owner will be represented at the project site by the Construction Representative and/or Designer, whose responsibilities are to see that this contract is properly fulfilled.
- B. The Owner shall at all times have access to the work whenever it is in preparation or progress. The Contractors shall provide proper facilities for such access and for inspection and supervision.
- C. All materials and workmanship used in the work shall be subject to the inspection of the Designer and Construction Representative, and any work which is deemed defective shall be removed, rebuilt or made good immediately upon notice. The cost of such correction shall be borne by the Contractor. Contractor shall not be entitled to an extension of the contract completion date in order to remedy defective work. All rejected materials shall be immediately removed from the site of the work.
- D. If the Contractor fails to proceed at once with the correction of rejected defective materials or workmanship, the Owner may, by separate contract or otherwise, have the defects remedied or rejected. Materials removed from the site and charge the cost of the same against any monies which may be due the Contractor, without prejudice to any other rights or remedies of the Owner.
- E. Failure or neglect on the part of Owner to observe faulty work, or work done which is not in accordance with the drawings and specifications shall not relieve the Contractor from responsibility

for correcting such work without additional compensation.

- F. The Owner shall have the right to direct the Contractor to uncover any completed work.
 - 1. If the Contractor fails to adequately notify the Construction Representative and/or Designer of an inspection as required by the Contract Documents, the Contractor shall, upon written request, uncover the work. The Contractor shall bear all costs associated with uncovering and again covering the work exposed.
 - 2. If the Contractor is directed to uncover work, which was not otherwise required by the Contract Documents to be inspected, and the work is found to be defective in any respect, no compensation shall be allowed for this work. If, however, such work is found to meet the requirements of this contract, the actual cost of labor and material necessarily involved in the examination and replacement plus 10% shall be allowed the Contractor.
- G. The Designer shall give all orders and directions contemplated under this contract relative to the scope of the work and shall give the initial interpretation of the contract documents.
- H. The Owner may file a written notice to the Contractor to dismiss immediately any subcontractors, project managers, superintendents, foremen, workers, watchmen or other employees whom the Owner may deem incompetent, careless or a hindrance to proper or timely execution of the work. The Contractor shall comply with such notice as promptly as practicable without detriment to the work or its progress.
- I. If in the Owner's judgment it becomes necessary at any time to accelerate work, when ordered by the Owner in writing, the Contractor shall redirect resources to such work items and execute such portions of the work as may be required to complete the work within the current approved contract schedule.

ARTICLE 3 -- CONTRACTOR RESPONSIBILITIES

ARTICLE 3.1 -- ACCEPTABLE SUBSTITUTIONS

- A. The Contractor may request use of any article, device, product, material, fixture, form or type of construction which in the judgment of the Owner and Designer is equal in all respects to that named. 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 and Designer that they are equal in design, strength, durability, usefulness and convenience for the purpose intended.

- B. Any changes required in the details and dimensions indicated on the drawings for the substitution of products other than those specified shall be properly made at the expense of the Contractor requesting the substitution or change.
- C. The Contractor shall submit a request for such substitutions in writing to the Owner and Designer within twenty (20) working days after the date of the "Notice to Proceed." Thereafter no consideration will be given to alternate forms of accomplishing the work. This Article does not preclude the Owner from exercising the provisions of Article 4 hereof.
- D. Any request for substitution by the Contractor shall be submitted in accordance with SECTION 002113 - INSTRUCTIONS TO BIDDERS.
- E. When a material has been approved, no change in brand or make will be permitted unless:
 - 1. Written verification is received from the manufacturer stating they cannot make delivery on the date previously agreed, or
 - 2. Material delivered fails to comply with contract requirements.

ARTICLE 3.2 -- SUBMITTALS

- A. The Contractor's submittals must be submitted with such promptness as to allow for review and approval so as not to cause delay in the work. The Contractor shall coordinate preparation and processing of submittals with performance of construction activities.

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

Submit four (4) copies to the Designer and additional copies as required for the subcontractors and material suppliers. Also provide copies to meet the requirements for maintenance manuals.
- B. All subcontractors' shop drawings and schedules shall be submitted by the Contractor and shall bear evidence that Contractor has received, reviewed, and approved them. Any shop drawings and schedules submitted without this evidence will be returned to the Contractor for resubmission.
- C. The Contractor shall include with the shop drawing, a letter indicating any and all deviations from the drawings and/or specifications. Failure to notify the Designer of such deviations will be grounds for subsequent rejection of the related work or materials. If, in the opinion of the Designer, the deviations are not acceptable, the Contractor will be required to furnish the item as specified and indicated on the drawings.

- D. The Designer shall check shop drawings and schedules with reasonable promptness and approve them only if they conform to the design concept of the project and comply with the information given in the contract documents. The approval shall not relieve the Contractor from the responsibility to comply with the drawings and specifications, unless the Contractor has called the Designer's attention to the deviation, in writing, at the time of submission and the Designer has knowingly approved thereof. An approval of any such modification will be given only under the following conditions:
1. It is in the best interest of the Owner
 2. It does not increase the contract sum and/or completion time
 3. It does not deviate from the design intent
 4. It is without prejudice to any and all rights under the surety bond.
- E. No extension of time will be granted because of the Contractor's failure to submit shop drawings and schedules in ample time to allow for review, possible resubmission, and approval. Fabrication of work shall not commence until the Contractor has received approval. The Contractor shall furnish prints of approved shop drawings and schedules to all subcontractors whose work is in any way related to the work under this contract. Only prints bearing this approval will be allowed on the site of construction
- F. The Contractor shall maintain a complete file on-site of approved shop drawings available for use by the Construction Representative.

ARTICLE 3.3 – AS-BUILT DRAWINGS

- A. The Contractor shall update a complete set of the construction drawings, shop drawings and schedules of all work monthly by marking changes, and at the completion of their work (prior to submission of request for final payment) note all changes and turn the set over to the Construction Representative. The updates shall show all addenda, all field changes that were made to adapt to field conditions, changes resulting from contract changes or supplemental instructions, and all locations of structures, buried installations of piping, conduit, and utility services. All buried and concealed items both inside and outside shall be accurately located as to depth and referenced to permanent features such as interior or exterior wall faces and dimensions shall be given in a neat and legible manner in a contrasting colored pencil or ink. If approved by the Designer, an electronic file format may be provided.

ARTICLE 3.4 – GUARANTY AND WARRANTIES

A. General Guaranty

1. Neither the final certificate of payment nor any provision in the contract documents nor partial use or occupancy of the premises by the Owner shall constitute an acceptance of work not done in accordance with contract requirements.
2. The Contractor or surety shall remedy any defects in the work and pay for any damage to property resulting there from which shall appear within a period of one (1) year from the date of substantial completion unless a longer period is otherwise specified or a differing guaranty period has been established in the substantial completion certificate. The Owner will give notice of observed defects with reasonable promptness.
3. In case of default on the part of the Contractor in fulfilling this part of this contract, the Owner may correct the work or repair the damage and the cost and expense incurred in such event shall be paid by or recoverable from the Contractor or surety.
4. The work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's guaranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment

B. Extended Warranty

Manufacturer's certificates of warranty shall be obtained for all major equipment. Warranty shall be obtained for at least one year. Where a longer period is offered at no additional cost or called for in the specific equipment specifications, the longer period shall govern.

ARTICLE 3.5 -- OPERATION AND MAINTENANCE MANUALS

- A. Immediately after equipment submittals are approved and no later than ten (10) working days prior to the substantial completion inspection, the Contractor shall provide to the Designer three (3)

copies of operating instructions and service manuals, containing the following:

1. Start-up and Shut-down 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 be prepared to include model number, capacities, flow rate, name plate data, shop drawings and air and water balance reports.
 4. Service Instructions: Provide the following information for all pieces of equipment.
 - a. Recommended spare parts including catalog number and name of local supplier or factory representative.
 - b. Belt sizes, types, and lengths.
 - c. Wiring diagrams.
 5. Manufacturer's Certificate of Warranty as described in Article 3.4.
 6. Prior to the final payment, furnish to the Designer three (4) copies of parts catalogs for each piece of equipment furnished by him/her on the project with the components identified by number for replacement ordering.
- B. Submission of operating instructions shall be done in the following manner.
1. Manuals shall be in quadruplicate, and all materials shall be bound into volumes of standard 8½" x 11" hard binders. Large drawings too bulky to be folded into 8½" x 11" shall be separately bound or folded and in envelopes, cross referenced and indexed with the manuals.
 2. The manuals shall identify project name, project number, and include the name and address of the Contractor, subcontractors and manufacturers who were involved with the activity described in that particular manual.
 3. Internally subdivide the binder contents with permanent page dividers, logically organized with tab titles clearly printed under reinforced laminated plastic tabs.
 4. Contents: Prepare a Table of Contents for each volume, with each product or system description identified.

ARTICLE 3.6 – OTHER CONTRACTOR RESPONSIBILITIES

- A. The Contractor shall keep on site, during progress of the work, a competent superintendent satisfactory to the Construction Representative. The superintendent shall represent the Contractor and all agreements made by the superintendent shall be binding. The superintendent shall carefully study and compare all drawings, specifications and other instructions and shall promptly notify the Construction Representative and Designer, in writing, any error, inconsistency or omission which may be discovered. The superintendent shall coordinate all work on the project. Any change of the superintendent shall be approved by the Construction Representative.
- B. Contractor shall, at all times, enforce strict discipline and good order among his employees, and shall not employ on the work any unfit person or anyone not skilled in the work assigned to him/her.
- C. The Contractor shall supply sufficient labor, material, plant and equipment and pay when due any laborer, subcontractor or supplier for supplies furnished and otherwise prosecute the work with diligence to prevent work stoppage and insure completion thereof within the time specified.
- D. The Contractor and each of his subcontractors shall submit to the Construction Representative, through the Designer such schedules of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data as the Owner may request concerning work performed or to be performed under this contract.
- E. The Contractor, subcontractors, and material suppliers shall upon written request, give the Owner access to all time cards, material invoices, payrolls, estimates, profit and loss statements, and all other direct or indirect costs related to this work.
- F. The Contractor shall be responsible for laying out all contract work such as layout of architectural, structural, mechanical and electrical work, which shall be coordinated with layouts of subcontractors for general construction work. The Contractor is also responsible for unloading, uncrating and handling of all materials and equipment to be erected or placed by him/her, whether furnished by Contractor or others. No extra charges or compensation will be allowed as a result of failure to verify dimensions before ordering materials or fabricating items.
- G. The Contractor must notify the Construction Representative at least one working day before

placing concrete or burying underground utilities, pipelines, etc.

- H. Contractors shall prearrange time with the Construction Representative for the interruption of any facility operation. Unless otherwise specified in these documents, all connections, alterations or relocations as well as all other portions of the work will be performed during normal working hours.
- I. The Contractor shall coordinate all work so there will not be prolonged interruptions of existing equipment operation. Any existing plumbing, heating, ventilating, air conditioning or electrical disconnections necessary for the project, which affect portions of this construction or building or any other building must be scheduled with the Construction Representative to minimize or avoid any disruption of facility operations. In no case, unless previously approved in writing by the Construction Representative, shall utilities be left disconnected at the end of a work day or over a weekend. Any interruption of utilities either intentionally or accidentally shall not relieve the Contractor responsible for the interruption from the responsibility to repair and restore the utility to normal service. Repairs and restoration shall be made before the workers responsible for the repair and restoration leave the job.
- J. Contractors shall limit operations and storage of materials to the area within the project, except as necessary to connect to existing utilities, and shall not encroach on neighboring property. The Contractor shall be responsible for repair of their damage to property on or off the project site occurring during construction of project. All such repairs shall be made to the satisfaction of the property owner.
- K. Unless otherwise permitted, all materials shall be new and both workmanship and materials shall be of the best quality.
- L. Unless otherwise provided and stipulated within these specifications, the Contractor shall furnish, construct, and/or install and pay for materials, devices, mechanisms, equipment, all necessary personnel, utilities including, but not limited to water, heat, light and electric power, transportation services, applicable taxes of every nature, and all other facilities necessary for the proper execution and completion of the work.
- M. Contractor shall carefully examine the plans and drawings and shall be responsible for the proper fitting of his material, equipment and apparatus into the building.
- N. The Contractor or subcontractors shall not overload, or permit others to overload, any part of

any structure during the performance of this contract.

- O. All temporary shoring, bracing, etc., required for the removal of existing work and/or for the installation of new work shall be included in this contract. The Contractor shall make good, at no cost to the Owner, any damage caused by improper support or failure of shoring in any respect. Each Contractor shall be responsible for shoring required to protect his work or adjacent property and improvements of Owner and shall be responsible for shoring or for giving written notice to adjacent property owners. Shoring shall be removed only after completion of permanent supports.
- P. The Contractor shall provide at the proper time such material as is required for support of the work. If openings are required, whether shown on drawings or not, the Contractor shall see that they are properly constructed.
- Q. During the performance of 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 will give proper and understandable warning to all persons of danger of entry onto land, structure or equipment.
- R. The Contractor shall be responsible for protection, including weather protection, and proper maintenance of all equipment and materials.
- S. The Contractor shall be responsible for care of the finished work and shall protect same from damage or defacement until substantial completion by the Owner. If the work is damaged by any cause, the Contractor shall immediately begin to make repairs in accordance with the drawings and specifications. Contractor shall be liable for all damage or loss unless attributable to the acts or omissions of the Owner or Designer. Any claim for reimbursement shall be submitted in accordance with Article 4. After substantial completion the Contractor will only be responsible for damage resulting from acts or omissions of the Contractor or subcontractors through final warranty.
- T. In the event the Contractor encounters an unforeseen hazardous material, the Contractor shall immediately stop work in the area affected and report the condition to the Owner and Designer in writing. The Contractor shall not be required, pursuant to Article 4, to perform, any work relating to hazardous materials.
- U. In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation

or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 4.

- V. Before commencing work, Contractors shall confer with the Construction Representative and facility representative and review any facility rules and regulations which may affect the conduct of the work.
- W. Project signs will only be erected on major projects and only as described in the specifications. If no sign is specified, none shall be erected.

ARTICLE 3.7 -- SUBCONTRACTS

- A. Subcontractor assignments as identified in the bid form shall not be changed without written approval of the Owner. The Owner will not approve changes of a listed subcontractor unless the Contractor documents, to the satisfaction of the Owner that the subcontractor cannot or will not perform the work as specified.
- B. The Contractor is fully responsible to the Owner for the acts and omissions of all subcontractors and of persons either directly or indirectly employed by them.
- C. Every subcontractor shall be bound by the applicable terms and provisions of these contract documents, but no contractual relationship shall exist between any subcontractor and the Owner unless the right of the Contractor to proceed with the work is suspended or this contract is terminated as herein provided, and the Owner in writing elects to assume the subcontract.
- D. The Contractor shall upon receipt of "Notice to Proceed" and prior to submission of the first payment request, notify the Designer and Construction Representative in writing of the names of any subcontractors to be used in addition to those identified in the bid form and all major material suppliers proposed for all parts of the work.

ARTICLE 4 -- CHANGES IN THE WORK

4.1 CHANGES IN THE WORK

- A. The Construction Representative, without giving notice to the surety and without invalidating this contract, may order extra work or make changes by altering, adding to or deducting from the work, this contract sum being adjusted accordingly. All such work shall be executed under the conditions of the original contract. A claim for extension of time caused by any change must be adjusted at the time of ordering such change. No future request for time will be considered.
- B. Each Contract Change shall include all costs required to perform the work including all labor,

material, equipment, overheads and profit, delay, disruptions, or other miscellaneous expenses. No subsequent requests for additional compensation including claims for delay, disruption, or reduced efficiency as a result of each change will be considered. Values from the Schedule of Values will not be binding as a basis for additions to or deductions from the contract price.

- C. The amount of any adjustment in this contract price for authorized changes shall be agreed upon before such changes become effective and shall be determined, through submission of a request for proposal, as follows:

1. By an acceptable fixed price proposal from the Contractor. Breakdowns shall include all takeoff sheets of each Contractor and subcontractor. Breakdown shall include a listing of each item of material with unit prices and number of hours of labor for each task. Labor costs per hour shall be included with labor burden identified, which shall be not less than the prevailing wage rate, etc. Overhead and profit shall be shown separately for each subcontractor and the Contractor.
2. By a cost-plus-fixed-fee (time and material) basis with maximum price, total cost not to exceed said maximum. Breakdown shall include a listing of each item of material with unit prices and number of hours of labor for each task. Labor costs per hour shall be included with labor burden identified, which shall be not less than the prevailing wage rate, etc. Overhead and profit shall be shown separately for each subcontractor and the Contractor.
3. By unit prices contained in Contractor's original bid form and incorporated in the construction contract.

- D. Overhead and Profit on Contract Changes shall be applied as follows:

1. The overhead and profit charge by the Contractor and all subcontractors shall be considered to include, but is not limited to: incidental job burdens, small truck (under 1 ton) expense, mileage, small hand tools, warranty costs, company benefits and general office overhead. Project supervision including field supervision and job site office expense shall be considered a part of overhead and profit unless a compensable time extension is granted.
2. The percentages for overhead and profit charged on Contract Changes shall be negotiated, and may vary according to the nature, extent, and complexity of the work

involved. However, the overhead and profit for the Contractor or subcontractor actually performing the work shall not exceed 14%. When one or more tiers of subcontractors are used, in no event shall any Contractor or subcontractor receive as overhead and profit more than 3% of the cost of the work performed by any of his subcontractors. In no case shall the total overhead and profit paid by the Owner on any Contract Changes exceed twenty percent (20%) of the cost of materials, labor and equipment (exclusive of Contractor or any Subcontractor overhead and profit) necessary to put the contract change work in place.

3. The Contractor will be allowed to add the cost of bonding and insurance to their cost of work. This bonding and insurance cost shall not exceed 2% and shall be allowed on the total cost of the added work, including overhead and profit.
 4. On proposals covering both increases and decreases in the amount of this contract, the application of overhead and profit shall be on the net change in the cost of the work.
 5. The percentage for overhead and profit to be credited to the Owner on Contract Changes that are solely decreases in the quantity of work or materials shall be negotiated, and may vary according to the nature, extent and complexity of the work involved, but in no case shall be less than ten percent (10%). If the percentage for overhead and profit charged for work added by Contract Changes for this contract has been negotiated to less than 10%, the negotiated rate shall then apply to credits as well.
- E. No claim for an addition to this contract sum shall be valid unless authorized as aforesaid in writing by the Owner. In the event that none of the foregoing methods are agreed upon, the Owner may order the Contractor to perform work on a time and material basis. The cost of such work shall be determined by the Contractor's actual labor and material cost to perform the work plus overhead and profit as outlined herein. The Designer and Construction Representative shall approve the Contractor's daily time and material invoices for the work involved.
- F. If the Contractor claims that any instructions involve extra cost under this contract, the Contractor shall give the Owner's Representative written notice thereof within a reasonable time after the receipt of such instructions, and in any event before proceeding to execute the work. No

such claim shall be valid unless so made and authorized by the Owner, in writing.

- G. In an emergency affecting the safety of life or of the structure or of adjoining property, the Contractor, without special instruction or authorization from the Construction Representative, is hereby permitted to act at their discretion to prevent such threatened loss or injury. The Contractor shall submit a claim for compensation for such emergency work in writing to the Owner's Representative.

ARTICLE 4.2 – CHANGES IN COMPLETION TIME

- A. Extension of the number of work days stipulated in the Contract for completion of the work with compensation may be made when:
1. The contractor documents that proposed Changes in the work, as provided in Article 4.1, extends construction activities critical to contract completion date, OR
 2. The Owner suspends all work for convenience of the Owner as provided in Article 7.3, OR
 3. An Owner caused delay extends construction activities critical to contract completion (except as provided elsewhere in these General Conditions). The Contractor is to review the work activities yet to begin and evaluate the possibility of rescheduling the work to minimize the overall project delay.
- B. Extension of the number of work days stipulated in the Contract for completion of the work without compensation may be made when:
1. Weather-related delays occur, subject to provisions for the inclusion of a specified number of "bad weather" days when provided for in Section 012100-Allowances, OR
 2. Labor strikes or acts of God occur, OR
 3. The work of the Contractor is delayed on account of conditions which were beyond the control of the Contractor, subcontractors or suppliers, and were not the result of their fault or negligence.
- C. No time extension or compensation will be provided for delays caused by or within the control of the Contractor, subcontractors or suppliers and for concurrent delays caused by the Owner.
- D. The Contractor shall notify the Owner promptly of any occurrence or conditions which in the Contractor's opinion results in a need for an extension of time. The notice shall be in writing and shall include all necessary supporting materials with details of any resultant costs and be submitted in time to permit full investigation and

evaluation of the Contractor's claim. The Owner shall promptly acknowledge the Contractor's notice and, after recommendation from the Owner's Representative and/or Designer, shall provide a decision to the Contractor. Failure on the part of the Contractor to provide such notice and to detail the costs shall constitute a waiver by the Contractor of any claim. Requests for extensions of time shall be for working days only.

ARTICLE 5 - CONSTRUCTION AND COMPLETION

ARTICLE 5.1 – CONSTRUCTION COMMENCEMENT

- A. Upon receipt of the "Intent to Award" letter, the Contractor must submit the following properly executed instruments to the Owner:
 1. Contract;
 2. Performance/payment bond as described in Article 6.1;
 3. Certificates of Insurance, or the actual policies themselves, showing that the Contractor has obtained the insurance coverage required by Article 6.2.
 4. Written Affirmative Action Plans as required in Article 1.4.

Above referenced items must be received by the Owner within ten (10) working days after the effective date of the contract. If not received, the Owner may treat the failure to timely submit them as a refusal by the Contractor to accept a contract for this work and may retain as liquidated damages the Contractor's bid bond, cashier's check or certified check as provided in the Instructions to Bidders. Upon receipt the Owner will issue a "Notice to Proceed" with the work to the Contractor.

- B. Within the time frame noted in Section 013200 - Schedules, following receipt of the "Notice to Proceed", the Contractor shall submit to the Owner a progress schedule and schedule of values, showing activities through the end of the contract period. Should the Contractor not receive written notification from the Owner of the disapproval of the schedule of values within fifteen (15) working days, the Contractor may consider it approved for purpose of determining when the first monthly Application and Certification for Payment may be submitted.
- C. The Contractor may commence work upon receipt of the Division of Facilities Management, Design and Construction's "Notice to Proceed" letter. Contractor shall prosecute the work with faithfulness and energy, and shall complete the

entire work on or before the completion time stated in the contract documents or pay to the Owner the damages resulting from the failure to timely complete the work as set out within Article 5.4.

ARTICLE 5.2 -- PROJECT CONSTRUCTION

- A. Each Contractor shall submit for the Owner's approval, in reproducible form, a progress schedule showing the rate of progress and the order of the work proposed to carry on various phases of the project. The schedule shall be in conformance with the requirements outlined in Section 013200 – Schedules.
- B. Contractor shall employ and supply a sufficient force of workers, material, and equipment and shall pay when due, any worker, subcontractor or supplier and otherwise prosecute the work with such diligence so as to maintain the rate of progress indicated on the progress schedule, prevent work stoppage, and insure completion of the project within the time specified.

ARTICLE 5.3 -- PROJECT COMPLETION

- A. Substantial Completion. A Project is substantially complete when construction is essentially complete and work items remaining to be completed can be done without interfering with the Owner's ability to use the Project for its intended purpose.
 1. Once the Contractor has reached what they believe is Substantial Completion, the Contractor shall notify the Designer and the Construction Representative of the following:
 - a. That work is essentially complete with the exception of certain listed work items. The list shall be referred to as the "Contractor's Punch."
 - b. That all Operation and Maintenance Manuals have been assembled and submitted in accordance with Article 3.5A.
 - c. That the Work is ready for inspection by the Designer and Construction Representative. The Owner shall be entitled to a minimum of ten working days notice before the inspection shall be performed.
 2. If the work is acceptable, the Owner shall issue a Certificate of Substantial Completion, which shall set forth the responsibilities of the Owner and the Contractor for utilities, security, maintenance, damage to the work and risk of loss. The Certificate shall also identify those remaining items of work to be

performed by the Contractor. All such work items shall be complete within 30 working days of the date of the Certificate, unless the Certificate specifies a different time. If the Contractor shall be required to perform tests that must be delayed due to climatic conditions, it is understood that such tests and affected equipment will be identified on the Certificate and shall be accomplished by the Contractor at the earliest possible date.

Performance of the tests may not be required before Substantial Completion can be issued. The date of the issuance of the Certificate of Substantial Completion shall determine whether or not the work was completed within the contract time and whether or not Liquidated Damages are due.

3. If the work is not acceptable, and the Owner does not issue a Certificate of Substantial Completion, the Owner shall be entitled to charge the Contractor with the Designer's and Owner's costs of re-inspection, including time and travel.
- B. Partial Occupancy. Contractor agrees that the Owner shall be permitted to occupy and use any completed or partially completed portions of the Project, when such occupancy and use is in the Owner's best interest. Owner shall notify Contractor of its desire and intention to take Partial Occupancy as soon as possible but at least ten (10) working days before the Owner intends to occupy. If the Contractor believes that the portion of the work the Owner intends to occupy is not ready for occupancy, the Contractor shall notify the Owner immediately. The Designer shall inspect the work in accordance with the procedures above. If the Contractor claims increased cost of the project or delay in completion as a result of the occupancy, he shall notify the Owner immediately but in all cases before occupancy occurs.
- C. Final Completion. The Project is finally complete when the Certificate of Substantial Completion has been issued and all work items identified therein as incomplete have been completed, and when all administrative items required by the contract have been completed. Final Completion entitles the Contractor to payment of the outstanding balance of the contract amount including all change orders and retainage. Within five (5) working days of the date of the Certificate of Substantial Completion, the Contractor shall identify the cost to complete any outstanding items of work. The Designer shall review the Contractor's estimate and either approve it or provide an independent estimate for all such items. If the Contractor fails to complete the remaining items within the time specified in the Certificate, the Owner may terminate the

contract and go to the surety for project completion in accordance with Article 7.2 or release the contract balance to the Contractor less 150% of the approved estimate to complete the outstanding items. Upon completion of the outstanding items, when a final cost has been established, any monies remaining shall be paid to the Contractor. Failure to complete items of work does not relieve the Contractor from the obligation to complete the administrative requirements of the contract, such as the provisions of Article 5.3 FAILURE TO COMPLETE ALL ITEMS OF WORK UNDER THE CONTRACT SHALL BE CONSIDERED A DEFAULT AND BE GROUNDS FOR CONTRACT TERMINATION AND DEBARMENT.

- D. Liquidated Damages. Contractor agrees that the Owner may deduct from the contract price and retain as liquidated damages, and not as penalty or forfeiture, the sum stipulated in this contract for each work day after the Contract Completion Day on which work is not Substantially Complete. Assessment of Liquidated Damages shall not relieve the Contractor or the surety of any responsibility or obligation under the Contract. In addition, the Owner may, without prejudice to any other rights, claims, or remedies the Owner may have including the right to Liquidated Damages, charge the Contractor for all additional expenses incurred by the Owner and/or Designer as the result of the extended contract period through Final Completion. Additional Expenses shall include but not be limited to the costs of additional inspections.
- E. Early Completion. The Contractor has the right to finish the work before the contract completion date; however, the Owner assumes no liability for any hindrances to the Contractor unless Owner caused delays result in a time extension to the contract completion date. The Contractor shall not be entitled to any claims for lost efficiencies or for delay if a Certificate of Substantial Completion is given on or before the Contract Completion Date.

ARTICLE 5.4 -- PAYMENT TO CONTRACTOR

- A. Payments on account of this contract will be made monthly in proportion to the work which has been completed. Request for payment must be submitted on the Owner's forms. No other pay request will be processed. Supporting breakdowns must be in the same format as Owner's forms and must provide the same level of detail. The Designer will, within 5 working days from receipt of the contractor's request for payment either issue a Certificate for Payment to the Owner, for such amount as the Designer determines is properly due, or notify the Contractor in writing of reasons for withholding a Certificate. The Owner shall make

payment within 30 calendar days after the "Application and Certification for Payment" has been received and certified by the Designer. The following items are to be attached to the contractor's pay request:

1. Updated construction schedule
 2. Certified payrolls consisting of name, occupation and craft, number of hours worked and actual wages paid for each individual employee, of the Contractor and all subcontractors working on the project
- B. The Owner shall retain 5 percent of the amount of each such payment application, except as allowed by Article 5.4, until final completion and acceptance of all work covered by this contract.
- C. Each payment made to Contractor shall be on account of the total amount payable to Contractor and all material and work covered by paid partial payment shall thereupon become the sole property of Owner. This provision shall not be construed as relieving Contractor from sole responsibility for care and protection of materials and work upon which payments have been made or restoration of any damaged work or as a waiver of the right of Owner to require fulfillment of all terms of this contract.
- D. Materials delivered to the work site and not incorporated in the work will be allowed in the Application and Certification for Payment on the basis of one hundred (100%) percent of value, subject to the 5% retainage providing that they are suitably stored on the site or in an approved warehouse in accordance with the following requirements:
1. Material has previously been approved through submittal and acceptance of shop drawings conforming to requirements of Article 3.2 of General Conditions.
 2. Delivery is made in accordance with the time frame on the approved schedule.
 3. Materials, equipment, etc., are properly stored and protected from damage and deterioration and remain so - if not, previously approved amounts will be deleted from subsequent pay applications.
 4. The payment request is accompanied by a breakdown identifying the material equipment, etc. in sufficient detail to establish quantity and value.
- E. The Contractor shall be allowed to include in the Application and Certification for Payment, one hundred (100%) of the value, subject to retainage, of major equipment and material stored off the site if all of the following conditions are met:

1. The request for consideration of payment for materials stored off site is made at least 15 working days prior to submittal of the Application for Payment including such material. Only materials inspected will be considered for inclusion on Application for Payment requests.
 2. Materials stored in one location off site are valued in excess of \$25,000.
 3. That a Certificate of Insurance is provided indicating adequate protection from loss, theft conversion or damage for materials stored off site. This Certificate shall show the State of Missouri as an additional insured for this loss.
 4. The materials are stored in a facility approved and inspected, by the Construction Representative.
 5. Contractor shall be responsible for, Owner costs to inspect out of state facilities, and any delays in the completion of the work caused by damage to the material or for any other failure of the Contractor to have access to this material for the execution of the work.
- F. The Owner shall determine the amount, quality and acceptability of the work and materials which are to be paid for under this contract. In the event any questions shall arise between the parties, relative to this contract or specifications, determination or decision of the Owner or the Construction Representative and the Designer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this contract affected in any manner or to any extent by such question.
- G. Payments Withheld: The Owner may withhold or nullify in whole or part any certificate to such extent as may be necessary to protect the Owner from loss on account of:
1. Defective work not remedied. When a notice of noncompliance is issued on an item or items, corrective action shall be undertaken immediately. Until corrective action is completed, no monies will be paid and no additional time will be allowed for the item or items. The cost of corrective action(s) shall be borne by the Contractor.
 2. A reasonable doubt that this contract can be completed for the unpaid balance.
 3. Failure of the Contractor to update as-built drawings monthly for review by the Construction Representative.
 4. Failure of the Contractor to update the construction schedule.

When the Construction Representative is satisfied the Contractor has remedied above deficiencies, payment shall be released.

- H. Final Payment: Upon receipt of written notice from the Contractor to the Designer and Project Representative that the work is ready for final inspection and acceptance, the Designer and Project Representative, with the Contractor, shall promptly make such inspection. If the work is acceptable and the contract fully performed, the Construction Representative shall complete a final acceptance report and the Contractor will be directed to submit a final Application and Certification for Payment. If the Owner approves the same, the entire balance shall be due and payable, with the exception of deductions as provided for under Article 5.4.
1. Where the specifications provide for the performance by the Contractor of (certain tests for the purpose of balancing and checking the air conditioning and heating equipment and the Contractor shall have furnished and installed all such equipment in accordance with the specifications, but said test cannot then be made because of climatic conditions, such test shall may be considered as required under the provisions of the specifications, Section 013300 and this contract may be substantial Full payment will not be made until the tests have been made and the equipment and system is finally accepted. If the tests are not completed when scheduled, the Owner may deduct 150% of the value of the tests from the final payment.
 2. The final payment shall not become due until the Contractor delivers to the Construction Representative:
 - a) A complete file of releases, on the standard form included in the contract documents as "Final Receipt of Payment and Release Form", from subcontractors and material suppliers evidencing payment in full for services, equipment and materials, as the case may require, if the Owner approves, or a consent from the Surety to final payment accepting liability for any unpaid amounts.
 - b) An Affidavit of Compliance with Prevailing Wage Law, in the form as included in this contract specifications, properly executed by each subcontractor, and the Contractor
 - c) Certified copies of all payrolls
 - d) As-built drawings

3. If any claim remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a claim including all costs and a reasonable attorney's fee.
4. Missouri statute requires prompt payment from the Owner to the Contractor within thirty calendar days and from the Contractor to his subcontractors within fifteen calendar days. Failure to make payments within the required time frame entitles the receiving party to charge interest at the rate of one and one half percent per month calculated from the expiration of the statutory time period until paid.
5. The value of all unused unit price allowances and/or 150% of the value of the outstanding work items, and/or liquidated damages may be deducted from the final pay request without executing a Contract Change. Any unit price items which exceed the number of units in the contract may be added by Contract Change.

ARTICLE 6 -- INSURANCE AND BONDS

ARTICLE 6.1 -- BOND

- A. Contractor shall furnish a performance/payment bond in an amount equal to 100% of the contract price to guarantee faithful performance of the contract and 100% of the contract price to guarantee the payment of all persons performing labor on the project and furnishing materials in connection therewith under this contract as set forth in the standard form of performance and payment bond included in the contract documents. The surety on such bond shall be issued by a surety company authorized by the Missouri Department of Insurance to do business in the state of Missouri.
- B. All Performance/Payment Bonds furnished in response to this provision shall be provided by a bonding company with a rating of B+ or higher as established by A.M. Best Company, Inc. in their most recent publication.

ARTICLE 6.2 – INSURANCE

- A. The successful Contractor shall procure and maintain for the duration of the contract issued a policy or policies of insurance for the protection of both the Contractor and the Owner and their respective officers, officials, agents, consultants and employees. The Owner requires certification of insurance coverage from the Contractor prior to commencing work.
- B. Minimum Scope and Extent of Coverage

1. General Liability

Commercial General Liability, ISO coverage form number or equivalent CG 00 01 ("occurrence" basis), or I-SO coverage form number CG 00 02, or ISO equivalent.

If ISO equivalent or manuscript general liability coverage forms are used, minimum coverage will be as follows: Premises/Operations;Independent Contractors; Products/Completed Operations; personal Injury; Broad Form Property Damage including Completed Operations; Broad Form Contractual Liability Coverage to include Contractor's obligations under Article 1.11 Indemnification and any other Special Hazards required by the work of the contract.

2. Automobile Liability

Business Automobile Liability Insurance, ISO Coverage form number or equivalent CA 00 01 covering automobile liability, code 1 "ANY AUTO".

3. Workers' Compensation and Employer's Liability

Statutory Workers' Compensation Insurance for Missouri and standard Employer's Liability Insurance, or the authorization to self-insure for such liability from the Missouri Division of Workers' Compensation.

4. Builder's Risk or Installation Floater Insurance

Insurance upon the work and all materials, equipment, supplies, temporary structures and similar items which may be incident to the performance of the work and located at or adjacent to the site, against loss or damage from fire and such other casualties as are included in extended coverage in broad "All Risk" form, including coverage for Flood and Earthquake, in an amount not less than the replacement cost of the work or this contract price, whichever is greater, with loss payable to Contractor and Owner as their respective interests may appear.

Contractor shall maintain sufficient insurance to cover the full value of the work and materials as the work progresses, and shall furnish Owner copies of all endorsements. If Builder's Risk Reporting- Form of Endorsement is used, Contractor shall make all reports as required therein so as to keep in force an amount of insurance which will equal the replacement cost of the work, materials, equipment, supplies, temporary structures, and other property covered thereby; and if, as a result of Contractor's failure to make any such

report, the amount of insurance so recoverable shall be less than such replacement cost, Contractor's interest in the proceeds of such insurance, if any, shall be subordinated to Owner's interest to the end that Owner may receive full reimbursement for its loss.

C. Minimum Limits of Insurance

1. General Liability

Contractor

\$2,000,000 combined single limit per occurrence for bodily injury, personal injury, and property damage

\$2,000,000 annual aggregate

2. Automobile Liability

\$2,000,000 combined single limit per occurrence for bodily injury and property damage

3. Workers' Compensation and Employers Liability

Workers' Compensation limits as required by applicable State Statutes (generally unlimited) and minimum of \$1,000,000 limit per accident for Employer's Liability.

General Liability and Automobile Liability insurance may be arranged under individual policies for the full limits required or by a combination of underlying policies with the balance provided by a form-following Excess or Umbrella Liability policy.

D. Deductibles and Self-Insured Retentions

All deductibles, co-payment clauses, and self-insured retentions must be declared to and approved by the Owner. The Owner reserves the right to request the reduction or elimination of unacceptable deductibles or self-insured retentions, as they would apply to the Owner, and their respective officers, officials, agents, consultants and employees. Alternatively, the Owner may request Contractor to procure a bond guaranteeing payment of losses and related investigations, claims administration, and defense expenses.

E. Other Insurance Provisions and Requirements

The respective insurance policies and coverage, as specified below, must contain, or be endorsed to contain the following conditions or provisions:

1. General Liability

The Owner, and its respective commissioners, officers, officials, agents, consultants and employees shall be endorsed as additional insured's by ISO form CG 20 26 Additional

Insured - Designated Person or Organization. As additional insured's, they shall be covered as to work performed by or on behalf of the Contractor or as to liability which arises out of Contractor's activities or resulting from the performance of services or the delivery of goods called for by the Contract.

Contractor's insurance coverage shall be primary with respect to all additional insured's. Insurance of self-insurance programs maintained by the designated additional -insured's shall be excess of the Contractor's insurance and shall not contribute with it.

Additionally, the Contractor and Contractor's general liability insurer shall agree to waive all rights of subrogation against the Owner and any of their respective officers, officials, agents, consultants or employees for claims, losses, or expenses which arise out of Contractor's activities or result from the performance of services or the delivery of goods called for by the Contract.

Contractor's failure to comply with the terms and conditions of these insurance policies shall not affect or abridge coverage for the Owner, or for any of their officers, officials, agents, consultants or employees.

2. Automobile Insurance

The Owner, and their respective officers, officials, agents, consultants and employees shall be endorsed as additional insured's by ISO form CG 20 26 - Additional Insured Designated Person or Organization. As additional insured's, they shall be covered as to work performed by or on behalf of the Contractor or as to liability which arises out of Contractor's activities or resulting from the performance of services or the delivery of goods called for by the Contract.

Contractor's insurance coverage shall be primary with respect to all additional insured's. Insurance or self-insurance programs maintained by the designated additional insured's shall be in excess of the Contractor's insurance and shall not contribute with it.

Additionally, the Contractor and Contractor's automobile insurer shall agree to waive all rights of subrogation against the Owner and any of their respective officers, officials, agents, consultants or employees for claims, losses, or expenses which arise out of Contractor's activities or result from the

performance of services or the delivery of goods called for by the Contract.

Contractor's failure to comply with the terms and conditions of these insurance policies shall not affect or abridge coverage for the Owner or for any of its officers, officials, agents, consultants or employees.

3. Workers' Compensation/Employer's Liability

Contractor's workers' compensation insurance shall be endorsed with NCCI form WC 00 03 01 A - Alternative Employer Endorsement. The Alternative Employer Endorsement shall designate the Owner as "alternate employers."

4. All Coverages

Each insurance policy required by this section of the Contract shall contain a stipulation, endorsed if necessary, that the Owner will receive a minimum of a thirty (30) calendar day advance notice of any policy cancellation. Ten (10) calendar days advance notice is required for policy cancellation due to non-payment of premium.

F. Insurer Qualifications and Acceptability

Insurance required hereunder shall be issued by an A.M. Best, "B+" rated, Class IX insurance company approved to conduct insurance business in the state of Missouri.

G. Verification of Insurance Coverage

Prior to Owner issuing a Notice to Proceed, the Contractor shall furnish the Owner with Certificate(s) of Insurance and with any applicable original endorsements evidencing the required insurance coverage. The insurance certificates and endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements received by the Owner are subject to review and approval by the Owner. The Owner reserves the right to require certified copies of all required policies at any time. If the scope of this contract will exceed one (1) year - or, if any of Contractor's applicable insurance coverage expires prior to completion of the work or services required under this contract - the Contractor will provide a renewal or replacement certificate before continuing work or services hereunder. If the Contractor fails to provide documentation of required insurance coverage, the Owner may issue a stop work order and no additional contract completion time and/or compensation shall be granted as a result thereof.

ARTICLE 7 – SUSPENSION OR TERMINATION OF CONTRACT

ARTICLE 7.1 - FOR SITE CONDITIONS

- A. When conditions at the site of the proposed work are considered by the Owner to be unsatisfactory for prosecution of the work, the Contractor may be ordered in writing to suspend the work or any part thereof until reasonable conditions exist. When such suspension is not due to fault or negligence of the Contractor, time allowed for completion of such suspended work will be extended by a period of time equal to that lost due to delay occasioned by ordered suspension. This will be a no cost time extension.

ARTICLE 7.2 - FOR CAUSE

- A. Termination or Suspension for Cause:
1. If the Contractor shall file for bankruptcy, or should make a general assignment for the benefit of the creditors, or if a receiver should be appointed on account of insolvency, or if the contractor should persistently or repeatedly refuse or fail to supply enough properly skilled workers or proper materials, or if the contractor should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Owner, or otherwise be guilty of a substantial violation of any provision of this contract, then the Owner may serve notice on the Contractor and the surety setting forth the violations and demanding compliance with this contract. Unless within ten (10) consecutive calendar days after serving such notice, such violations shall cease and satisfactory arrangements for correction be made, the Owner may suspend the Contractor's right to proceed with the work or terminate this contract.
 2. In the event the Owner suspends Contractor's right to proceed with the work or terminates the contract, the Owner may demand that the Contractor's surety take over and complete the work on this contract, after the surety submits a written proposal to the Owner and receives written approval and upon the surety's failure or refusal to do so within ten (10) consecutive calendar days after demand therefore, the Owner may take over the work and prosecute the same to completion by bid or negotiated contract, or the Owner may elect to take possession of and utilize in completing the work such materials, supplies, appliances and plant as may be on the site of the work, and all subcontractors, if the Owner elects, shall be bound to perform their contracts.

- B. The Contractor and its surety shall be and remain liable to the Owner for any excess cost or damages occasioned to the Owner as a result of the actions above set forth.
- C. The Contractor in the event of such suspension or termination shall not be entitled to receive any further payments under this contract until the work is wholly finished. Then if the unpaid balance under this contract shall exceed all expenses of the Owner as certified by the Director, such excess shall be paid to the Contractor; but, if such expenses shall exceed the unpaid balance as certified by the Director, the Contractor and their surety shall be liable for and shall pay the difference and any damages to the Owner.
- D. In exercising Owner's right to secure completion of the work under any of the provisions hereof, the Director shall have the right to exercise Owner's sole discretion as to the manner, methods and reasonableness of costs of completing the work.
- E. The rights of the Owner to suspend or terminate as herein provided shall be cumulative and not exclusive and shall be in addition to any other remedy provided by law.
- F. The Contractor in the event of such suspension or termination may be declared ineligible for Owner contracts for a minimal period of twelve (12) months. Further, no contract will be awarded to any Contractor who lists in their bid form any subcontractor whose prior performance has contributed, as determined by the Owner, to a breach of a contract. In order to be considered for state-awarded contracts after this period, the Contractor/subcontractor will be required to forward acceptance reports to the Owner regarding successful completion of non-state projects during the intervening twelve (12) months from the date of default. No contracts will be awarded to a subcontractor/Contractor until the ability to perform responsibly in the private sector has been proven to the Owner.

ARTICLE 7.3 -- FOR CONVENIENCE

- A. The Owner may terminate or suspend the Contract or any portion of the Work without cause at any time, and at the Owner's convenience. Notification of a termination or suspension shall be in writing and shall be given to the Contractor and their surety. If the Contract is suspended, the notice will contain the anticipated duration of the suspension or the conditions under which work will be permitted to resume. If appropriate, the Contractor will be requested to demobilize and re-mobilize and will be reimbursed time and costs associated with the suspension.
- B. Upon receipt of notification, the Contractor shall:

1. Cease operations when directed.
 2. Take actions to protect the work and any stored materials.
 3. Place no further subcontracts or orders for material, supplies, services or facilities except as may be necessary to complete the portion of the Contract that has not been terminated. No claim for payment of materials or supplies ordered after the termination date shall be considered.
 4. Terminate all existing subcontracts, rentals, material, and equipment orders.
 5. Settle all outstanding liabilities arising from termination with subcontractors and suppliers.
 6. Transfer title and deliver to the Owner, work in progress, completed work, supplies and other material produced or acquire for the work terminated, and completed or partially completed plans, drawings information and other property that, if the Contract had been completed, would be required to be furnished to the Owner.
- C. For termination without cause and at the Owner's convenience, in addition to payment for work completed prior to date of termination, the Contractor may be entitled to payment of other documented costs directly associated with the early termination of the contract. Payment for anticipated profit and unapplied overhead will not be allowed.

SECTION 007300 - SUPPLEMENTARY CONDITIONS

1.0 GENERAL:

- A. These Supplementary General Conditions clarify, add, delete, or otherwise modify standard terms and conditions of DIVISION 0, BIDDING AND CONTRACTING REQUIREMENTS.

2.0 CONTACTS:

Designer: Aaron Kennedy
Robert Rollings Architects, LLC
1806 W Broadway Blvd., Sedalia, MO 65301
Telephone: 660-829-9751; Fax: 660-829-9752
Email: aaron@rollingsarchitects.com

Construction Representative: Tim Deal
Division of Facilities Management, Design and Construction
709 Missouri Boulevard, Jefferson City, Missouri
Telephone: 573-751-7095; Fax: 573-522-1763
Email: timothy.deal2@oa.mo.gov

Project Manager: Brad Schaefer
Division of Facilities Management, Design and Construction
301 West High Street, Room 730, Jefferson City, Missouri 65102
Telephone: 573-526-0136; Fax: 573-751-7277
Email: Brad.schaefer@oa.mo.gov

Contract Specialist: Kelly Copeland
Division of Facilities Management, Design and Construction
301 West High Street, Room 730, Jefferson City, Missouri 65102
Telephone: 573-522-2283; Fax: 573-751-7277
Email: kelly.copeland@oa.mo.gov

3.0 NOTICE: ALL BID MATERIALS ARE DUE AT THE TIME OF BID SUBMITTAL. THERE IS NO SECOND SUBMITTAL FOR THIS PROJECT.

4.0 FURNISHING CONSTRUCTION DOCUMENTS:

- A. The Owner will furnish the Contractor with approximately 5 complete sets of drawings and specifications at no charge.
- B. The Owner will furnish the Contractor with approximately 5 sets of explanatory or change drawings at no charge.
- C. The Contractor may make copies of the documents as needed with no additional cost to the Owner.

5.0 ILLEGAL IMMIGRATION REFORM AND IMMIGRANT RESPONSIBILITY ACT

The Contractor understands and agrees that by signing a contract for this project, they certify the following:

- A. The Contractor shall only utilize personnel authorized to work in the United States in accordance with applicable federal and state laws. This includes but is not limited to the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) and INA Section 274A.
- B. If the Contractor is found to be in violation of this requirement or the applicable laws of the state, federal and local laws and regulations, and if the State of Missouri has reasonable cause to believe that the Contractor has knowingly employed individuals who are not eligible to work in the United States, the state shall have the right to cancel the contract immediately without penalty or recourse and suspend or debar the contractor from doing business with the state.
- C. The Contractor agrees to fully cooperate with any audit or investigation from federal, state or local law enforcement agencies.

6.0 SAFETY REQUIREMENTS

Contractor and subcontractors at any tier shall comply with RSMo 292.675 and Article 1.3, E, of Section 007213, General Conditions.

7.0 LEAD AND ASBESTOS CERTIFICATION REQUIREMENTS:

From SECTION 007213 – GENERAL CONDITIONS, Article 5.4.H.2, ADD receipt of Certification from Contractor meeting the requirements set forth in SECTION 013513.16 – SITE SECURITY AND HEALTH REQUIREMENTS, 3.4., NO ASBESTOS AND NO LEAD CERTIFICATION.

Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

Annual Wage Order No. 26

Section 014
CALLAWAY 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

Taylor Burks, Director
Division of Labor Standards

Filed With Secretary of State: _____ **March 8, 2019**

Last Date Objections May Be Filed: **April 8, 2019**

Prepared by Missouri Department of Labor and Industrial Relations

Building Construction Rates for
CALLAWAY County

Section 014

OCCUPATIONAL TITLE	** Date of Increase	Basic Hourly Rates
Asbestos Worker		\$62.43
Boilermaker		\$24.58*
Bricklayer		\$47.47
Carpenter		\$44.11
Lather		
Linoleum Layer		
Millwright		
Pile Driver		
Cement Mason		\$24.58*
Plasterer		
Communications Technician		\$50.12
Electrician (Inside Wireman)		\$50.12
Electrician Outside Lineman		\$24.58*
Lineman Operator		
Lineman - Tree Trimmer		
Groundman		
Groundman - Tree Trimmer		
Elevator Constructor		\$24.58*
Glazier		\$24.58*
Ironworker		\$60.07
Laborer		\$50.25
General Laborer		
First Semi-Skilled		
Second Semi-Skilled		
Mason		\$48.05
Marble Mason		
Marble Finisher		
Terrazzo Worker		
Terrazzo Finisher		
Tile Setter		
Tile Finisher		
Operating Engineer		\$55.75
Group I		
Group II		
Group III		
Group III-A		
Group IV		
Group V		
Painter		\$36.63
Plumber		\$66.67
Pipe Fitter		
Roofer		\$46.11
Sheet Metal Worker		\$51.39
Sprinkler Fitter		\$24.58*
Truck Driver		\$24.58*
Truck Control Service Driver		
Group I		
Group II		
Group III		
Group IV		

*The Division of Labor Standards received less than 1,000 reportable hours as required by RSMo 290.257.4(b). Public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center, in accordance with RSMo 290.257.2.

OCCUPATIONAL TITLE	** Date of Increase	Basic Hourly Rates
Carpenter		\$24.58*
Millwright		
Pile Driver		
Electrician (Outside Lineman)		\$24.58*
Lineman Operator		
Lineman - Tree Trimmer		
Groundman		
Groundman - Tree Trimmer		
Laborer		\$44.80
General Laborer		
Skilled Laborer		
Operating Engineer		\$58.05
Group I		
Group II		
Group III		
Group IV		
Truck Driver		\$24.58*
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 less than 1,000 reportable hours as required by RSMo 290.257.4(b). Public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center, in accordance with RSMo 290.257.2.

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 011000 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions and Division 1 Specification Sections apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project consists of removal and replacement of all exterior aluminum windows in approximately 90 openings, with new non-operable aluminum windows. There are two openings with five windows, 45 openings with three windows, 27 openings with two windows, and 18 openings with one window. The GC shall also remove and replacement of two aluminum storefronts with five new aluminum windows each, and the removal of a hollow metal double door and frame with transoms and sidelights to be replaced with a new aluminum storefront door and frame. Demolition will include asbestos abatement with third party air monitoring on the interior of the windows, storefronts, and hollow metal door system.
 - 1. Project Location: Missouri School for the Deaf, 505 E. 5th St. Fulton, MO 65251
 - 2. Owner: State of Missouri, Office of Administration, Division of Facilities Management, Design and Construction, Harry S Truman State Office Building, Post Office Box 809, 301 West High Street, Jefferson City, Missouri 65102.
- B. Contract Documents, dated **8/19/2019** were prepared for the Project by **Robert Rollings Architects, LLC**.
- C. The Work consists of removal and replacement of 90 openings of aluminum window, removal of two storefront windows with replacement by aluminum windows, and removal of one hollow metal double door and frame to be replaced with an aluminum storefront door and frame. The project will include asbestos abatement and third party air monitoring.
 - 1. The Work includes asbestos abatement and third party air monitoring, demolition of existing aluminum windows, aluminum storefront, and hollow metal door and frame, and installation of new non-operable aluminum windows, aluminum storefront and entry systems.
- D. The Work will be constructed under a single prime contract.

1.3 DESIGNER'S ESTIMATE OF CONSTRUCTION COST RANGE

- 1. \$361,500.00 – \$496,700.00

1.4 WORK UNDER OTHER CONTRACTS

- A. Separate Contract: The Owner has a separate contract for performance of certain construction operations at the site. Those operations will be conducted simultaneously with work under this contract. That Contract includes the following:
 - 1. Contract: Missouri School for the Deaf has a separate contract with Tyco Integrated Security to install all wiring and make all connections to the electric strike. GC shall coordinate with both Missouri School for the Deaf and Gayla Schneider, Tyco Integrated Security, 314-477-8252, Gayla.schneider@jci.com

- B. Cooperate fully with separate contractors so that work under those contracts may be carried out smoothly, without interfering with or delaying work under this Contract

1.5 WORK SEQUENCE

- A. The Work will be conducted in approximately 3 phases, GC may divide up the areas further for convenience, i.e. north side of admin, and shall coordinate with owner, project manager, and architect to do so.
 - 1. Phase 1: **Remove and replace storefront and aluminum windows in the administration portion and connecting corridor.** Work on this phase may start on May 1 and shall be substantially complete, ready for occupancy by July 27, 2020.
 - 2. Phase 2: **Remove and replace aluminum windows on either the first or second floor of the classroom portion of the building.** Work on this phase may start on June 1 and shall be substantially complete, ready for occupancy by July 27, 2020.
 - 3. Phase 3: **Remove and replace aluminum windows on the remaining floor of the classroom portion of the building.** Work on this phase may start on June 1, and shall be substantially complete, ready for occupancy by July 27, 2020.

1.6 CONTRACTOR USE OF PREMISES

- A. General: During the construction period the Contractor shall have full use of the premises for construction operations, including use of the site. The Contractor's use of the premises limited only by the Owner's right to perform work or to retain other contractors on portions of the Project.
- B. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
 - 1. Owner Occupancy: Allow for Owner occupancy and use by the public.
 - 2. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Use of the Existing Building: Maintain the existing building in a weathertight condition throughout the construction period. Repair damage cause by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.

1.7 OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: The Owner will occupy the site and existing building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate owner usage. Perform the Work so as not to interfere with the Owner's operations.
- B. Partial Owner Occupancy: The Owner reserves the right to occupy and to place and install equipment in completed areas of the building prior to Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.

1. The Designer will prepare a Certificate of Partial Occupancy for each specific portion of the Work to be occupied prior to substantial completion.
2. Prior to partial Owner occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy, the Owner will operate and maintain mechanical and electrical systems serving occupied portions for the building.
3. Upon occupancy, the Owner will assume responsibility for maintenance and custodial service for occupied portions for the building.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 SCHEDULE OF PRODUCTS ORDERED IN ADVANCE

END OF SECTION 011000

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SECTION 012600 – CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 1 Specification Sections apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract Modifications.
- B. Related Sections include the following:
 - 1. Division 0, Section 007213, Article 3.1 "Acceptable Substitutions" for administrative procedures for handling Requests for Substitutions made after Contract award.
 - 2. Division 0, Section 007213, Article 4.0 "Changes in the Work" for Contract Change requirements.

1.3 REQUESTS FOR INFORMATION

- A. In the event that the Contractor or Subcontractor, at any tier, determines that some portion of the Drawings, Specifications, or other Contract Documents requires clarification or interpretation, the Contractor shall submit a "Request for Information" (RFI) in writing to the Designer. A RFI may only be submitted by the Contractor and shall only be submitted on the RFI forms provided by the Owner. The Contractor shall clearly and concisely set forth the issue for which clarification or interpretation is sought and why a response is needed. In the RFI, the Contractor shall set forth an interpretation or understanding of the requirement along with reasons why such an understanding was reached.
- B. Responses to RFI shall be issued within ten (10) working days of receipt of the Request from the Contractor unless the Designer determines that a longer time is necessary to provide an adequate response. If a longer time is determined necessary by the Designer, the Designer will, within five (5) working days of receipt of the request, notify the Contractor of the anticipated response time. If the Contractor submits a RFI on a time sensitive activity on the current project schedule, the Contractor shall not be entitled to any time extension due to the time it takes the Designer to respond to the request provided that the Designer responds within the ten (10) working days set forth above.
- C. Responses from the Designer will not change any requirement of the Contract Documents. In the event the Contractor believes that a response to a RFI will cause a change to the requirements of the Contract Document, the Contractor shall give written notice to the Designer requesting a Contract Change for the work. Failure to give such written notice within ten (10) working days, shall waive the Contractor's right to seek additional time or cost under Article 4, "Changes in the Work" of the General Conditions.

1.4 MINOR CHANGES IN THE WORK

- A. Designer will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Amount or the Contract Time, on "Designer's Supplemental Instructions" (DSI).

1.5 PROPOSAL REQUESTS

- A. The Designer or Owner Representative will issue a detailed description of proposed Changes in the Work that may require adjustment to the Contract Amount or the Contract Time. The proposed Change Description will be issued using the "Request for Proposal" (RFP) form. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by the Designer or Owner Representative are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within ten (10) working days after receipt of Proposal Request, submit a proposal for the cost adjustments to the Contract Amount and the Contract Time necessary to execute the Change. The Contractor shall submit his proposal on the appropriate Contract Change Detailed Breakdown form. Subcontractors may use the appropriate Contract Change Detailed Breakdown form or submit their proposal on their letterhead provided the same level of detail is included. All proposals shall include:
 - a. A detailed breakdown of costs per Article 4.1 of the General Conditions.
 - b. If requesting additional time per Article 4.2 of the General Conditions, include an updated Contractor's Construction Schedule that indicates the effect of the Change including, but not limited to, changes in activity duration, start and finish times, and activity relationship.

1.6 CONTRACT CHANGE PROCEDURES

- A. On Owner's approval of a Proposal Request, the Designer or Owner Representative will issue a Contract Change for signatures of Owner and Contractor on the "Contract Change" form.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REFERENCED FORMS

- A. The following forms can be found on our website at <https://oa.mo.gov/facilities/vendor-links/architectengineering-forms> or <https://oa.mo.gov/facilities/vendor-links/contractor-forms>:
 - 1. Request for Information
 - 2. Designer's Supplemental Instructions
 - 3. Request for Proposal
 - 4. Contract Change
 - 5. Contract Change Detailed Breakdown – SAMPLES
 - 6. Contract Change Detailed Breakdown – General Contractor (GC)
 - 7. Contract Change Detailed Breakdown – Subcontractor (SUB)

END OF SECTION 012600

SECTION 013100 – COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions and other Division 1 Specification Sections apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Projects including, but not limited to, the following:
 - 1. Coordination Drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
- B. Each Contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific Contractor.
- C. Related Sections include the following:
 - 1. Division 1, Section 013200 "Schedules" for preparing and submitting Contractor's Construction Schedule.
 - 2. Articles 1.8.B and 1.8.C of Section 007213 "General Conditions" for coordinating meetings onsite.
 - 3. Article 5.4.H of Section 007213 "General Conditions" for coordinating Closeout of the Contract.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections, which depend on each other for proper installation, connection, and operation.
- B. Coordination: Each Contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each Contractor shall coordinate its operations with operations included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other Contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required

maintenance, service, and repair of all components including mechanical and electrical.

- C. Prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate Contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other Contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's Construction Schedule.
 - 2. Preparation of the Schedule of Values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Startup and adjustment of systems.
 - 8. Project Closeout activities.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.4 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
- B. Key Personnel Names: Within fifteen (15) work days of starting construction operations, submit a list of key personnel assignments including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
 - 1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 PROJECT MEETINGS

- A. The Owner's Construction Representative will schedule a Pre-Construction Meeting prior to beginning of construction. The date, time, and exact place of this meeting will be determined after Contract Award and notification of all interested parties. The

Contractor shall arrange to have the Job Superintendent and all prime Subcontractors present at the meeting. During the Pre-Construction Meeting, the construction procedures and information necessary for submitting payment requests will be discussed and materials distributed along with any other pertinent information.

1. Minutes: Designer will record and distribute meeting minutes.
- B. Progress Meetings: The Owner's Construction Representative will conduct Monthly Progress Meetings as stated in Articles 1.8.B and 1.8.C of Section 007213 "General Conditions".
1. Minutes: Designer will record and distribute to Contractor the meeting minutes.
- C. Preinstallation Conferences: Contractor shall conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of Manufacturers and Fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Designer and Construction Representative of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration including requirements for the following:
 - a. Contract Documents
 - b. Options
 - c. Related RFIs
 - d. Related Contract Changes
 - e. Purchases
 - f. Deliveries
 - g. Submittals
 - h. Review of mockups
 - i. Possible conflicts
 - j. Compatibility problems
 - k. Time schedules
 - l. Weather limitations
 - m. Manufacturer's written recommendations
 - n. Warranty requirements
 - o. Compatibility of materials
 - p. Acceptability of substrates
 - q. Temporary facilities and controls
 - r. Space and access limitations
 - s. Regulations of authorities having jurisdiction
 - t. Testing and inspecting requirements

- u. Installation procedures
 - v. Coordination with other Work
 - w. Required performance results
 - x. Protection of adjacent Work
 - y. Protection of construction and personnel
3. Contractor shall record significant conference discussions, agreements, and disagreements including required corrective measures and actions.
 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
 6. Revise paragraph below if Project requires holding progress meetings at different intervals. Insert special intervals such as "every third Tuesday" to suit special circumstances.
 7. Project name
 8. Name and address of Contractor
 9. Name and address of Designer
 10. RFI number including RFIs that were dropped and not submitted
 11. RFI description
 12. Date the RFI was submitted
 13. Date Designer's response was received
 14. Identification of related DSI or Proposal Request, as appropriate

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 – SCHEDULE – BAR CHART

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions, Bid Form, and other Division 1 Specification Sections apply to this Section.

1.2 SUMMARY

- A. This Section includes requirements for a Bar Chart Schedule for the project construction activities, schedule of submittals, and schedule for testing.

PART 2 - PRODUCTS – (Not Applicable)

PART 3 - EXECUTION

3.1 SUBMITTAL PROCEDURES

- A. The Contractor shall submit to the Designer, within ten (10) working days following the Notice to Proceed, a Progress Schedule showing the rate of progress the Contractor agrees to maintain and the order in which he proposed to carry out the various phases of Work. No payments shall be made to the Contractor until the Progress Schedule has been approved by the Owner.
- B. The Contractor shall submit an updated Schedule for presentation at each Monthly Progress Meeting. The Schedule shall be updated by the Contractor as necessary to reflect the current Schedule and its relationship to the original Schedule. The updated Schedule shall reflect any changes in the logic, sequence, durations, or completion date. Payments to the Contractor shall be suspended if the Progress Schedule is not adequately updated to reflect actual conditions.
- C. The Contractor shall submit Progress Schedules to Subcontractors to permit coordinating their Progress Schedules to the general construction Work. The Contractor shall coordinate preparation and processing of Schedules and reports with performance of other construction activities.

3.2 CONSTRUCTION PROGRESS SCHEDULE – BAR CHART SCHEDULE

- A. Bar-Chart Schedule: The Contractor shall prepare a comprehensive, fully developed, horizontal bar chart-type Contractor's Construction Schedule. The Contractor for general construction shall prepare the Construction Schedule for the entire Project. The Schedule shall show the percentage of work to be completed at any time, anticipated monthly payments by Owner, as well as significant dates (such as completion of excavation, concrete foundation work, underground lines, superstructure, rough-ins, enclosure, hanging of fixtures, etc.) which shall serve as check points to determine compliance with the approved Schedule. The Schedule shall also include an activity for the number of "bad" weather days specified in Section 012100 – Allowances.
 - 1. The Contractor shall provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week.

- a. If practical, use the same Schedule of Values breakdown for schedule time bars.
 2. The Contractor shall provide a base activity time bar showing duration for each construction activity. Each bar is to indicate start and completion dates for the activity. The Contractor is to place a contrasting bar below each original schedule activity time for indicating actual progress and planned remaining duration for the activity.
 3. The Contractor shall prepare the Schedule on a minimal number of separate sheets to readily show the data for the entire construction period.
 4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on schedule with other construction activities. Include minor elements involved in the overall sequence of the Work. Show each activity in proper sequence. Indicate graphically the sequences necessary for completion of related portions of the Work.
 5. Coordinate the Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittal Schedule, progress reports, payment requests, and other required schedules and reports.
 6. Indicate the Intent to Award and the Contract Substantial Completion dates on the schedule.
- B. Phasing: Provide notations on the schedule to show how the sequence of the Work is affected by the following:
1. Requirement for Phased completion
 2. Work by separate Contractors
 3. Work by the Owner
 4. Pre-purchased materials
 5. Coordination with existing construction
 6. Limitations of continued occupancies
 7. Un-interruptible services
 8. Partial Occupancy prior to Substantial Completion
 9. Site restrictions
 10. Provisions for future construction
 11. Seasonal variations
 12. Environmental control
- C. Work Stages: Use crosshatched bars to indicate important stages of construction for each major portion of the Work. Such stages include, but are not necessarily limited to, the following:
1. Subcontract awards
 2. Submittals
 3. Purchases
 4. Mockups
 5. Fabrication

6. Sample testing
 7. Deliveries
 8. Installation
 9. Testing
 10. Adjusting
 11. Curing
 12. Startup and placement into final use and operation
- D. Area Separations: Provide a separate time bar to identify each major area of construction for each major portion of the Work. For the purposes of this Article, a “major area” is a story of construction, a separate building, or a similar significant construction element.
1. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
 - a. Structural completion.
 - b. Permanent space enclosure
 - c. Completion of mechanical installation
 - d. Completion of the electrical portion of the Work
 - e. Substantial Completion

3.3 SCHEDULE OF SUBMITTALS

- A. Upon acceptance of the Construction Progress Schedule, prepare and submit a complete schedule of submittals. Coordinate the submittal schedule with Section 011300 SUBMITTALS, the approved Construction Progress Schedule, list of subcontracts, Schedule of Values and the list of products.
- B. Prepare the schedule in chronological order. Provide the following information
1. Scheduled date for the first submittal
 2. Related Section number
 3. Submittal category
 4. Name of the Subcontractor
 5. Description of the part of the Work covered
 6. Scheduled date for resubmittal
 7. Scheduled date for the Designer’s final release or approval
- C. Distribution: Following the Designer’s response to the initial submittal schedule, print and distribute copies to the Designer, Owner, subcontractors, and other parties required to comply with submittal dates indicated.
1. Post copies in the Project meeting room and temporary field office.
 2. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned part of the Work and are no longer involved in construction activities.

- D. **Schedule Updating:** Revise the schedule after each meeting or other activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

3.4 SCHEDULE OF INSPECTIONS AND TESTS

- A. Prepare a schedule of inspections, tests, and similar services required by the Contract Documents. Submit the schedule with (15) days of the date established for commencement of the Contract Work. The Contractor is to notify the testing agency at least (5) working days in advance of the required tests unless otherwise specified.
- B. **Form:** This schedule shall be in tabular form and shall include, but not be limited to, the following:
 - 1. Specification Section number
 - 2. Description of the test
 - 3. Identification of applicable standards
 - 4. Identification of test methods
 - 5. Number of tests required
 - 6. Time schedule or time span for tests
 - 7. Entity responsible for performing tests
 - 8. Requirements for taking samples
 - 9. Unique characteristics of each service
- C. **Distribution:** Distribute the schedule to the Owner, Architect, and each party involved in performance of portions of the Work where inspections and tests are required.

END OF SECTION 013200

SECTION 013300 – SUBMITTALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions, Bid Form, and other Division 1 Specification Sections apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work including the following:
 - 1. Shop Drawings
 - 2. Product Data
 - 3. Samples
 - 4. Quality Assurance Submittals
 - 5. Construction Photographs
 - 6. Operating and Maintenance Manuals
 - 7. Warranties
- B. Administrative Submittals: Refer to General and Supplementary Conditions other applicable Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:
 - 1. Construction Progress Schedule including Schedule of Values
 - 2. Performance and Payment Bonds
 - 3. Insurance Certificates
 - 4. Applications for Payment
 - 5. Certified Payroll Reports
 - 6. Partial and Final Receipt of Payment and Release Forms
 - 7. Affidavit – Compliance with Prevailing Wage Law
 - 8. Record Drawings
 - 9. Notifications, Permits, etc.
- C. The Contractor is obliged and responsible to check all shop drawings and schedules to assure compliance with contract plans and specifications. The Contractor is responsible for the content of the shop drawings and coordination with other contract work. Shop drawings and schedules shall indicate, in detail, all parts of an Item or Work including erection and setting instructions and integration with the Work of other trades.
- D. The Contractor shall at all times make a copy, of all approved submittals, available on site to the Construction Representative.

1.3 SUBMITTAL PROCEDURES

- A. The Contractor shall comply with the General and Supplementary Conditions and other applicable sections of the Contract Documents. The Contractor shall submit, with such promptness as to cause no delay in his work or in that of any other contractors, all required submittals indicated in Part 3.1 of this section and elsewhere in the Contract Documents. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - a. The Designer reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.

- B. Each drawing and/or series of drawings submitted must be accompanied by a letter of transmittal giving a list of the titles and numbers of the drawings. Each series shall be numbered consecutively for ready reference and each drawing shall be marked with the following information:
 - 1. Date of Submission
 - 2. Name of Project
 - 3. Location
 - 4. Section Number of Specification
 - 5. State Project Number
 - 6. Name of Submitting Contractor
 - 7. Name of Subcontractor
 - 8. Indicate if Item is submitted as specified or as a substitution

1.4 SHOP DRAWINGS

- A. Comply with the General Conditions, Article 3.2.

- B. The Contractor shall submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.

- C. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings including the following information:
 - 1. Dimensions
 - 2. Identification of products and materials included by sheet and detail number
 - 3. Compliance with specified standards
 - 4. Notation of coordination requirements

5. Notation of dimensions established by field measurement
6. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8½"x11" but no larger than 36"x48".

1.5 PRODUCT DATA

- A. The Contractor shall comply with the General Conditions, Article 3.2.
- B. The Contractor shall collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
 1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information including the following information:
 - a. Manufacturer's printed recommendations
 - b. Compliance with Trade Association standards
 - c. Compliance with recognized Testing Agency standards
 - d. Application of Testing Agency labels and seals
 - e. Notation of dimensions verified by field measurement
 - f. Notation of coordination requirements
 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.

1.6 SAMPLES

- A. The Contractor shall comply with the General Conditions, Article 3.2.
- B. The Contractor shall submit full-size, fully fabricated samples, cured and finished as specified, and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
 1. The Contractor shall mount or display samples in the manner to facilitate review of qualities indicated. Prepare samples to match the Designer's sample including the following:
 - a. Specification Section number and reference
 - b. Generic description of the Sample
 - c. Sample source
 - d. Product name or name of the Manufacturer
 - e. Compliance with recognized standards
 - f. Availability and delivery time
 2. The Contractor shall submit samples for review of size, kind, color, pattern, and texture. Submit samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.

- a. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least three (3) multiple units that show approximate limits of the variations.
 - b. Refer to other Specification Sections for requirements for samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
 - c. Refer to other Sections for samples to be returned to the Contractor for incorporation in the Work. Such samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of sample submittals.
 - d. Samples not incorporated into the Work, or otherwise designated as the Owner's property, are the property of the Contractor and shall be removed from the site prior to Substantial Completion.
3. Field samples are full-size examples erected onsite to illustrate finishes, coatings, or finish materials and to establish the Project standard.
 - a. The Contractor shall comply with submittal requirements to the fullest extent possible. The Contractor shall process transmittal forms to provide a record of activity.

1.7 QUALITY ASSURANCE DOCUMENTS

- A. The Contractor shall comply with the General Conditions, Article 3.2
- B. The Contractor shall submit quality control submittals including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control submittals as required under other Sections of the Specifications.
- C. Certifications: Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the Manufacturer certifying compliance with specified requirements.
 1. Signature: Certification shall be signed by an officer of the Manufacturer or other individual authorized to contractually bind the Company.
- D. Inspection and Test Reports: The Contractor shall submit the required inspection and test reports from independent testing agencies as specified in this Section and in other Sections of the Contract Documents.
- E. Construction Photographs: The Contractor shall submit record construction photographs as specified in this Section and in other Sections of the Contract Documents.
 1. The Contractor shall submit digital photographs. The Construction Administrator shall determine the quality and naming convention at the preconstruction meeting.
 2. The Contractor shall identify each photograph with project name, location, number, date, time, and orientation.
 3. The Contractor shall submit progress photographs monthly unless specified otherwise. Photographs shall be taken one (1) week prior to submitting.
 4. The Contractor shall take four (4) site photographs from differing directions and a minimum of five (5) interior photographs indicating the relative progress of the Work.

1.8 OPERATING AND MAINTENANCE MANUALS AND WARRANTIES

- A. The Contractor shall submit all required manufacturer’s operating instructions, maintenance/service manuals, and warranties in accordance with the General Conditions, Article 3.5, and Supplementary Conditions along with this and other Sections of the Contract Documents.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 REQUIRED SUBMITTALS

- A. Contractor shall submit the following information for materials and equipment to be provided under this contract.

SECTION	DESCRIPTION	TYPE OF SUBMITTAL											
		Shop Drawings	Product Data	Sample	Certifications	Manufacturer's Instructions	Test report	Inspection Report	Wiring Diagrams	Record Photographs	Maintenance Data	Operating Instruction	Warranty
013200	Schedules – Bar Chart	x											
013513	Site Security & Health Requirements				x			x					
028213	Asbestos Abatement				x		x	x		x			
079200	Joint Sealants	x	x	x		x	x	x			x		x
084113	Aluminum Framed Entrances & Storefronts	x	x	x		x	x				x	x	x
085113	Aluminum Windows	x	x	x		x	x					x	x
087100	Door Hardware	x	x	x	x	x	x		x		x	x	x
088000	Glass and Glazing		x	x			x				x		x

END OF SECTION 013300

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SECTION 013513.13 – SITE SECURITY AND HEALTH REQUIREMENTS (DESE)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions, Bid Form, and other Division 1 Specification Sections apply to this Section.

1.2 SUBMITTALS

- A. List of required submittals:
 - 1. Materials Safety Data Sheets for all hazardous materials to be brought onsite.
 - 2. Schedule of proposed shutdowns, if applicable.
 - 3. A list of the names of all employees who will submit fingerprints for a background check, and the signed privacy documents identified below for each employee.
 - 4. “No Asbestos and No Lead” certification.
 - 5. Drug testing program and certification.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 ACCESS TO THE SITE

- A. The Contractor shall arrange with Facility Representatives to establish procedures for the controlled entry of workers and materials into the work areas at the Facility.
- B. The Contractor shall establish regular working hours with Facility Representatives. The Contractor must report changes in working hours or overtime to Facility Representatives and obtain approval twenty-four (24) hours ahead of time. The Contractor shall report emergency overtime to Facility Representatives as soon as it is evident that overtime is needed. The Contractor must obtain approval from Facility Representatives for all work performed after dark.
- C. The Contractor shall provide the name and phone number of the Contractor’s employee or agent who is in charge onsite; this individual must be able to be contacted in case of emergency. The Contractor must be able to furnish names and address of all employees upon request.

3.2 RULES OF THE FACILITY

- A. No alcohol, drugs, guns, or other weapons are permitted anywhere at the Facility (i.e., inside or outside buildings, or anywhere on school grounds); violators will be referred to local law enforcement for prosecution.

- B. No tobacco or smoking products may be used anywhere at the Facility.
- C. Sexual harassment, offensive or fraternizing behavior, or foul language around or towards students or staff will not be tolerated. Violations by workers will result in one warning from the Facility Representative. Subsequent infractions will require permanent ejection of offending worker(s) from the jobsite, with no change to the contract schedule or additional cost to the State.
- D. The Contractor shall consider the safety of the Facility's students at all times, and shall maintain excavations, scaffolding/ladders, equipment, tools, and materials in as safe a manner as possible during and after working hours.
- E. Vehicles should be locked and parked in areas designated by the Facility Representative.
- F. Neither the Owner nor DESE assumes responsibility for the Contractor's vehicles, equipment, tools, or materials.
- G. The Contractor shall coordinate and communicate planned daily work activities with the Facility Representative at least two (2) working days in advance. This will allow time for the Facility Representative to consider temporarily relocating special education students whose health could be adversely affected by loud noises, chemical odors, temperature extremes, etc.

3.3 SECURITY CLEARANCES AND RESTRICTIONS

A. FMDC REQUIRED FINGERPRINTING FOR CRIMINAL BACKGROUND AND WARRANTS CHECK

1. All employees of the Contractor are required to submit fingerprints to the Missouri State Highway Patrol to enable the Office of Administration, Division of Facilities Management, Design and Construction (FMDC) to receive state and national criminal background checks on such employees. FMDC reserves the right to prohibit any employee of the Contractor from performing work in or on the premises of any facility owned, operated, or utilized by the State of Missouri for any reason.
2. The Contractor shall ensure all of its employees submit fingerprints to the Missouri State Highway Patrol and pay for the cost of such background checks. The Contractor shall submit to FMDC via email to FMDCSecurity@oa.mo.gov a list of the names of the Contractor's employees who will be fingerprinted and a signed Missouri Applicant Fingerprint Privacy Notice, Applicant Privacy Rights and Privacy Act Statement for each employee. All employees of the Contractor approved by FMDC to work at a State facility must obtain a contractor ID badge from FMDC prior to beginning work on-site, unless the Director of FMDC, at the Director's discretion, waives the requirement for a contractor ID badge. The Contractor and its employees must comply with the process for background checks and contractor ID badges found on FMDC's website at: <https://oa.mo.gov/fmdc-contractor-id-badges>.
3. Pursuant to section 43.540, RSMo, FMDC participates in the Missouri Rap Back and National Rap Back programs as of August 28, 2018. This means that the Missouri State Highway Patrol, Central Records Repository, and the Federal Bureau of Investigation will retain the fingerprints submitted by each of the Contractor's employees, and those fingerprints will be searched against other fingerprints on file, including latent fingerprints. While retained,

an employee's fingerprints may continue to be compared against other fingerprints submitted or retained by the Federal Bureau of Investigation, including latent fingerprints.

4. As part of the Missouri and National Rap Back programs, FMDC will receive notification if a new arrest is reported for an employee whose fingerprints have been submitted for FMDC after August 28, 2018. If the employee is performing work on a State contract at the time of the arrest notification, FMDC will request and receive the employee's updated criminal history records. If the employee is no longer performing work on a State contract, FMDC will not obtain updated criminal records.
5. Pursuant to section 43.540, RSMo, the Missouri State Highway Patrol will provide the results of the employee's background check directly to FMDC. FMDC may NOT release the results of a background check to the Contractor or provide the Contractor any information obtained from a background check, either verbally or in writing. FMDC will notify the Contractor only whether an employee is approved to work on State property.
6. Each employee who submits fingerprints to the Missouri State Highway Patrol has a right to obtain a copy of the results of his or her background check. The employee may challenge the accuracy and completeness of the information contained in a background check report and obtain a determination from the Missouri State Highway Patrol and/or the FBI regarding the validity of such challenge prior to FMDC making a final decision about his or her eligibility to perform work under a State contract.
7. The Contractor shall notify FMDC via email to FMDCSecurity@oa.mo.gov if an employee is terminated or resigns from employment with the Contractor. If the Contractor does not anticipate performing work on a State contract in the future, the Contractor may request that FMDC remove its employees from the Rap Back programs. However, if removed from the Rap Back programs, employees will be required to submit new fingerprints should the contractor be awarded another State contract.
8. Upon award of a Contract, the Contractor should contact FMDC at FMDCSecurity@oa.mo.gov to determine if its employees need to provide a new background check. If a Contractor's employee has previously submitted a fingerprint background check to FMDC as part of the Missouri and National Rap Back programs, the employee may not need to submit another fingerprint search for a period of three to six years, depending upon the circumstances. The Contractor understands and agrees that FMDC may require more frequent background checks without providing any explanation to the Contractor. The fact that an additional background check is requested by FMDC does not indicate that the employee has a criminal record.

3.4 FIRE PROTECTION, SAFETY, AND HEALTH CONTROLS

- A. The Contractor shall take all necessary precautions to guard against and eliminate possible fire hazards.
 1. Onsite burning is prohibited.
 2. The Contractor shall store all flammable or hazardous materials in proper containers located outside the buildings or offsite, if possible.

3. The Contractor shall provide and maintain, in good order, during construction fire extinguishers as required by the National Fire Protection Association. In areas of flammable liquids, asphalt, or electrical hazards, 15-pound carbon dioxide or 20-pound dry chemical extinguishers shall be provided.
- B. The Contractor shall not obstruct streets or walks without permission from the Owner's Construction Representative and Facility Representatives.
- C. The Contractor's personnel shall not exceed the speed limit of 15 mph while at the Facility unless otherwise posted.
- D. The Contractor shall take all necessary, reasonable measures to reduce air and water pollution by any material or equipment used during construction. The Contractor shall keep volatile wastes in covered containers, and shall not dispose of volatile wastes or oils in storm or sanitary drains.
- E. The Contractor shall keep the project site neat, orderly, and in a safe condition at all times. The Contractor shall immediately remove all hazardous waste, and shall not allow rubbish to accumulate. The Contractor shall provide onsite containers for collection of rubbish and shall dispose of it at frequent intervals during the progress of the Work.
- F. Fire exits, alarm systems, and sprinkler systems shall remain fully operational at all times, unless written approval is received from the Owner's Construction Representative and the appropriate Facility Representative at least twenty-four (24) hours in advance. The Contractor shall submit a written time schedule for any proposed shutdowns.
- G. For all hazardous materials brought onsite, Material Safety Data Sheets shall be on site and readily available upon request at least a day before delivery.
- H. The Contractor's workers shall not be under the influence of any intoxicating substances while on the Facility premises.

3.5 NO ASBESTOS AND NO LEAD CERTIFICATION REQUIREMENTS

- A. No asbestos containing material (> 1.0% asbestos by dry weight) or lead containing material (> 0.06% or 600ppm/10,000ppm lead by dry weight) shall be included in any project submittals or physically installed during construction work on this project.
- B. USEPA regulations exclude local education agencies (i.e., DESE MSB, MSD, & SSSH) from the requirements of inspection, sampling, and analysis of homogenous areas that have been newly constructed or repaired/replaced in special education school buildings; where an Architect or Project Engineer responsible for the construction, or an Accredited Inspector, provides a signed statement that no asbestos (or lead) was specified, or used, as a building material (or system component) in any project construction documents, or physically installed as part of the project work. It is recommended that the Contractor research each material/component used on the job to verify that it contains no asbestos or lead (i.e., look at manufacturer's cut-sheet specifications, Material Safety Data Sheets, DOT shipping classification, or even contact the manufacturer for their verification); then, the Contractor should write on each project submittal: "To the best of my knowledge, items covered by this submittal contain no asbestos or lead containing material".
- C. Contractor Certification Requirement

1. Prior to final payment, the Contractor shall submit a signed letter on company letterhead certifying that, to the best of its knowledge, no asbestos or lead containing materials were used or installed during the work. The Contractor shall address the letter to the Service Level Manager/ Designated Person for FMDC, at P.O. Box 809, Jefferson City, MO 65102, and (if applicable) to the Architect or Project Engineer. The letter shall reference the Site/Facility Name, Project Number, Project Title, and shall include the following statement:

“The Contractor certifies, to the best of its knowledge, that no asbestos containing material (> 1.0% asbestos by dry weight) or lead containing material (> 0.06% or 600ppm/10,000ppm lead by dry weight) was included in any project submittals or physically installed during construction work on this project. Contractor agrees to pay all costs incurred by the Owner discovering, abating, and/or restoring any component or portion of the work that is later found to include an asbestos or lead containing material in excess of these limitations.”

D. Architect or Project Engineer Certification

1. As part of the final as-built/close-out document submittal requirements, it is requested that the Project Architect or Engineer (or Accredited Inspector as a last resort) responsible for design and submittal approval, submit a signed letter on company letterhead that references the Site/Facility Name, Project Number, Project Title, and includes the following statement:

“As the Designer, or Accredited Inspector, I certify, to the best of my knowledge, that no asbestos containing material (> 1.0% asbestos by dry weight) or lead containing material (> 0.06%, or, 600ppm/10,000ppm lead by dry weight) was specified in the construction documents, or approved for installation by the Contractor during construction work, on this project.”

**3.6 DRUG & ALCOHOL TESTING PROGRAM CONTRACTUAL REQUIREMENT -
(1 CSR 30-7.010)**

A. BASIS AND LEGAL REQUIREMENTS

1. In an effort to create safe and healthy schools and workplaces, the State of Missouri requires that Contractors and Subcontractors shall maintain and enforce a written substance abuse testing program for public works construction projects on public and charter elementary and secondary education construction projects that are subject to the control of the State of Missouri. This policy is not intended to be a substitute for the Contractor’s or Subcontractor’s complete written substance abuse policy. These requirements shall be the minimum requirements for complying with Section 161.371, RSMo, and may be supplemented at the discretion of the Contractor or Subcontractor.
2. The State of Missouri has a vital interest in protecting the safety of students and maintaining safe, healthful, and efficient working conditions for both the state and its’ Contractors’ and Subcontractors’ employees; and has determined that the educational and work environment is safer and more productive without the presence of illegal or inappropriate drugs, alcohol, or other substances in the body or on state property on which any state elementary or secondary school is located or being constructed or improved.
3. The use of illegal drugs, on or off duty, is inconsistent with law-abiding behavior expected of all persons. The use of illegal drugs, or abuse of alcohol or prescription drugs, may impair the ability of employees to perform tasks that are critical to proper work performance. The result is an increase in accidents and

failures that pose a serious threat to the safety of all students, employees, visitors and the general public. Impaired employees also tend to be less productive, less reliable and prone to greater absenteeism, resulting in the potential for increased cost and delays in the timely completion of contracts.

B. CONTRACTUAL REQUIREMENTS

1. Each contract entered into for the performance of work on any public and charter elementary or secondary project subject to the control of the State of Missouri shall require that each Contractor and each Subcontractor have in place a drug and alcohol testing program consistent with this rule. These contractual requirements shall apply to Contractor and Subcontractor employees on public and charter elementary and secondary education construction projects that are subject to the control of the State of Missouri, including workers, new hires, replacements, and supervisory personnel. The Contractor and all Subcontractors shall comply with this contractual requirement. The State of Missouri shall determine, in its sole discretion, when this contractual requirement shall be applicable; and in such instances, any bid submitted in response to a request for proposal shall comply with this contractual requirement.
2. In order to be eligible to perform work on public and charter elementary and secondary education construction projects that are subject to the control by the State of Missouri, a Contractor must have and enforce a written drug and alcohol testing program incorporating the following testing requirements, terms and conditions applicable to all its employees, prospective employees and Subcontractors. Neither employee nor prospective employee of a Contractor or Subcontractor shall be permitted to work on public and charter elementary and secondary education construction projects that are subject to this rule unless such employee submits to testing as required by the contractual requirement required by this rule.
3. Each Contractor and Subcontractor subject to this rule shall train its' supervisory employees in methods that will allow them to recognize the signs and symptoms of substance abuse and to take action provided by this contractual requirement in a manner consistent with generally accepted safety training procedures.
4. Each Contractor and Subcontractor subject to this rule is responsible for the cost of developing, implementing, and enforcing its drug and alcohol testing program, including the cost of drug and alcohol testing of its employees provided by the contractual requirement required by this rule.
5. Each Contractor shall furnish a copy of its drug and alcohol testing program and certify that it and its' Subcontractors are in compliance with the provisions of this rule to the State of Missouri at the time it submits a bid for any contract with the State of Missouri for work on public and charter elementary and secondary education construction projects that are subject to the control of the State of Missouri. Additionally, each Subcontractor shall furnish a copy of its substance abuse testing program to the Contractor prior to commencement of work on public and charter elementary and secondary education construction projects that are subject to this contractual requirement. The Contractor may reject a Subcontractor's program as noncompliant with the contractual requirement required by this rule.

C. TESTING REQUIREMENTS

1. **PRE-ENGAGEMENT TESTING:** Testing for all substances other than alcohol as described in this rule shall be conducted by each Contractor and Subcontractor

for its employees or prospective employees within 120 days prior to any employee's appearance on a public and charter elementary and secondary education construction project that is subject to this contractual requirement. Contractors' or Subcontractors' employees that can provide certification of a previous drug test occurring within 120 days or employees that have been subject during the preceding consecutive two (2) years to a random and periodic selection program that meets the standards as set forth in this rule and, if the employee actually has been tested, that indicates a negative result for each of the substances listed herein, may be exempted from pre-engagement testing provided by this rule. If the employee was not employed by the Contractor or Subcontractor that is his or her current employer at the time of the previous test, the employee may be exempted from pre-engagement testing only upon certification of the non-negative test directly from the administrator of the testing program that conducted the previous test.

2. **RANDOM TESTING:** All employees of the Contractor and Subcontractor shall be subject to random testing by the Contractor or Subcontractor. For employees holding a commercial driver license, the annualized drug and alcohol testing rate shall comply with 49 CFR Part 382, as may be amended from time to time and similar applicable regulations of the Federal Highway Administration. All other employees of the Contractor or Subcontractor shall be subject to testing for all substances other than alcohol at the random annualized selection rate of fifty (50) percent of the Contractor's or Subcontractor's employees. Employees selected for random testing shall report in a timely manner to the drug and alcohol testing laboratory or collection site where directed for drug and/or alcohol testing.
3. **PERIODIC TESTING:** All employees working on public and charter elementary and secondary education construction projects that are subject to this rule shall be subject to periodic and random testing for all substances other than alcohol on at least a biannual basis. Employees subject to periodic testing shall report in a timely manner as directed to the drug and alcohol testing laboratory or collection site for drug testing.
4. **REASONABLE SUSPICION TESTING:** All employees of the Contractor and Subcontractor on public and charter elementary and secondary education construction projects that are subject to this rule shall be subject to a drug and alcohol test when an employee is acting in an abnormal manner that leads a supervisory employee of the Contractor or Subcontractor to have reasonable suspicion that the employee is under the influence of alcohol or controlled substances. Reasonable suspicion means suspicion based on specific personal observations by the supervisory employee concerning the appearance, behavior, speech or breath odor of the employee.
5. **POST-ACCIDENT/INCIDENT TESTING:** All employees of Contractors and Subcontractors on public and charter elementary and secondary education construction projects who are subject to this rule shall be subject to a drug and alcohol test following an on-the-job injury requiring medical treatment or following a serious or potentially serious incident, including near misses, during which safety precautions were violated, persons were or could have been injured, unsafe instructions or orders were given, vehicles, equipment, or property was damaged, careless acts were performed, or when prescribed personal protective or safety equipment was not worn. Employees involved or who may have contributed to the incident, shall be subject to a drug and alcohol test. If it is impossible or impractical, because of the physical condition of the person involved in the accident to be subjected to drug and alcohol testing; and if in subsequent medical treatment, that person's blood or other bodily fluid will be

drawn, then that blood or other bodily fluids may be analyzed for drugs and alcohol.

D. SUBSTANCE ABUSE TESTING PROTOCOLS

1. A Contractor or Subcontractor subject to the provisions of this rule shall perform pre-engagement, random, periodic, reasonable suspicion, and post accident/incident testing in the following manner:
 - a. Drug Testing
 - 1) All urine samples collected under this program shall be analyzed by a laboratory certified by the National Institute on Drug Abuse/Substance Abuse and Mental Health Service Administration of the U.S. Department of Health and Human Services and shall include an initial Enzyme Multiplied Immunoassay Screening Test (EMIT) and, when necessary, confirmed by a Gas Chromatography /Mass Spectrometry (GC/MS) confirmation test. All samples confirmed by the laboratory as non-negative shall be interpreted as positive or negative by a Medical Review Officer licensed by the American Association of Medical Review Officers, American College of Occupational and Environmental Medicine, Medical Review Officer Certification Council, or American Society of Addiction Medicine.
 - b. Alcohol Testing
 - 1) The initial screening tests for alcohol shall be performed by using either a saliva test or a DOT approved breathalyzer.
 - 2) Alcohol confirmatory tests shall be performed by either a blood alcohol test or a DOT approved breathalyzer.
2. Testing for the presence of drugs or alcohol in an employee's system and the handling of test specimens shall be conducted in accordance with guidelines for laboratory testing procedures and chain-of-custody procedures established by the Substance Abuse and Mental Health Service Administration of the U.S. Department of Health and Human Services.
3. The program shall require notification to the employer and employee of the results of any non-negative drug and alcohol test and the Division of Facilities Management, Design and Construction shall be notified of the action taken to protect the safety of students as a result of such positive test, provided that no requirement of individual confidentiality of test results provided by federal law or regulation or state statute shall be violated in providing such notifications.

E. THRESHOLD LIMITS

1. All samples collected shall be analyzed by a laboratory certified by the Substance Abuse and Mental Health Service Administration of the U.S. Department of Health and Human Services, and shall include an initial Enzyme Multiplied Immunoassay Screening Test (EMIT) and, when necessary, confirmed by a Gas Chromatography/Mass Spectrometry (GC/MS) Confirmation Test. Said testing must screen, at a minimum, for the substances and levels of such substances provided by 49 CFR Part 40 and for alcohol as provided by 49 CFR Part 382, as may be amended from time to time. The levels that shall be deemed to result in a negative test result shall be defined by 49 CFR Part 40 and 49 CFR Part 382, as

may be amended from time to time; provided that if such regulations shall no longer define substances and testing levels in the future, testing as required by this rule shall screen for the following substances that shall not exceed the following levels in order to be deemed a negative test result:

(EMIT) Confirmed Initial Level (ng/ml)	Cut-Off Level (ng/ml)	(GC/MS) Confirmation Test
Drugs tested -----		
*Amphetamines	500	250
Barbiturates	300	200
Benzodiazepines	300	200
Cocaine Metabolite	150	100
Cannabinoids (Marijuana THC)	50	15
Methadone	300	200
Opiates:		
Codeine/Morphine	2000	2000
Heroin Metabolite	10	10
Phencyclidine (PCP)	25	25
Propoxyphene	300	200
Breath/Blood Alcohol Content (BAC)	.04%	.04%
Removal from jobsite (BAC)	.0200-.0399%	.0200%-.0399%

*Note – includes Amphetamines, Methamphetamines and Ecstasy (MDMA).

F. REFUSAL TO SUBMIT TO TESTING/CONFIRMED POSITIVE RESULTS

1. Any employee of a Contractor or Subcontractor performing any duties or work that are subject to this rule who refuses to submit to testing or receives a confirmed positive test result for any of the substances indicated in Section E shall be required to immediately leave the construction site and be prohibited from returning to any construction site subject to control of the State of Missouri until evidence is provided of the completion of the reinstatement procedures as set forth in section G.
2. Determination for Violation of Policy
 - a. A confirmed positive drug or alcohol test.
 - b. Failure to contact the Medical Review Officer as directed.
 - c. Failure to report as directed for random testing.
 - d. The use, possession, sale or distribution of alcohol or a controlled illegal or unauthorized substance, or the presence of any employee with such ingested substances for non-medical reasons on a public and charter elementary and secondary education construction project subject to the control of the State of Missouri.
 - e. Working, reporting to work, being on a public and charter elementary and secondary education construction project that is subject to the control of the State of Missouri, or in a state or employer owned, leased or rented vehicle, while under the influence of alcohol (0.04% BAC or greater).

- f. Switching, adulterating or attempting to tamper with any sample submitted for drug or alcohol testing or otherwise interfering or attempting to interfere with the testing process.
- g. Refusal to submit a specimen for testing shall be deemed to be a positive test result and shall be subject to the same consequences as specimens tested and confirmed as positive.
- h. The use of a controlled substance by an individual other than the individual for whom the controlled substance was prescribed or the abuse of a controlled substance by the individual for whom it was prescribed.

G. REINSTATEMENT PROCEDURES

- 1. An employee receiving a confirmed positive test result for any of the substances indicated in Section 5 may return to work on a public and charter elementary and secondary education construction project that is subject to the control of the State of Missouri only after the following conditions have been satisfied:
 - a. Evidence is submitted to the Contractor or Subcontractor that the employee has completed or is actively participating in an approved drug/alcohol assessment, treatment, and/or counseling program. The costs of this assessment, treatment or program need not be borne by the Contractor or Subcontractor.
 - b. Evidence is submitted of the employee passing of a drug and alcohol test that meets the requirements of Sections E and F of this rule. The costs of this subsequent retesting need not be borne by the Contractor or Subcontractor.
 - c. The employee shall be subject to additional random drug and alcohol testing on a monthly basis while on any public and charter elementary and secondary education construction project that is subject to the control of the State of Missouri. The costs of this additional testing, treatment or program need not be borne by the Contractor or Subcontractor.
 - d. An employee known by the Contractor or Subcontractor to have previously had a positive test result who receives a second or subsequent confirmed positive test result in connection with subsequent testing required by this Section H of this rule shall be removed by the Contractor or Subcontractor from all public and charter elementary and secondary education construction projects that are subject to the control of the State of Missouri. The employee shall not return to work on any public and charter elementary and secondary education construction project subject to this rule until that the employee has completed an approved drug/alcohol assessment, treatment, and/or counseling program; and until after evidence is submitted of the employee passing of a drug and alcohol test that meets the requirements of sections E and F of this rule and that indicates a blood alcohol concentration of less than 0.02 percent.

H. COMPLIANCE DETERMINATION

- 1. The State of Missouri may audit any substance abuse testing program implemented pursuant to this contractual requirement to verify compliance, upon at least 24 hours notice by the State to the Contractor of its intent to audit. The State shall have free access to all relevant records of the Contractor and its Subcontractors for this purpose.

2. Any portion of this program that is in violation of applicable federal or state law or regulation shall be deemed unenforceable.

3.7 DISRUPTION OF UTILITIES

- A. The Contractor shall give minimum (72) hours written notice to the Construction Representative and Facility Representative before disconnecting electric, gas, water, fire protection, or sewer service to any building.
- B. The contractor shall give minimum (72) hours written notice to the Construction Representative and Facility Representative before closing any access drives and shall make temporary access available if possible. Do not obstruct streets, walks, or parking

END OF SECTION 01 35 13.13

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SECTION 015000 – CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions, Bid Form, and other Division 1 Specification Sections apply to this Section.

1.2 SUMMARY

- A. This Section includes requirements for construction facilities and temporary controls including temporary utilities, support facilities, security, and protection.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Water service and distribution
 - 2. Temporary electric power and light
 - 3. Temporary heat
 - 4. Ventilation
 - 5. Telephone service
 - 6. Sanitary facilities, including drinking water
 - 7. Storm and sanitary sewer
- C. Support facilities include, but are not limited to, the following:
 - 1. Field offices and storage sheds
 - 2. Temporary roads and paving
 - 3. Dewatering facilities and drains
 - 4. Temporary enclosures
 - 5. Hoists and temporary elevator use
 - 6. Temporary project identification signs and bulletin boards
 - 7. Waste disposal services
 - 8. Rodent and pest control
 - 9. Construction aids and miscellaneous services and facilities
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Temporary fire protection
 - 2. Barricades, warning signs, and lights
 - 3. Sidewalk bridge or enclosure fence for the site
 - 4. Environmental protection

1.3 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations including, but not limited to, the following:

1. Building code requirements
 2. Health and safety regulations
 3. Utility company regulations
 4. Police, fire department, and rescue squad rules
 5. Environmental protection regulations
- B. Standards: Comply with NFPA 241 “Standard for Safeguarding Construction, Alterations, and Demolition Operations”. ANSI A10 Series standards for “Safety Requirements for Construction and Demolition”, and NECA Electrical Design Library “Temporary Electrical Facilities”.
1. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 “National Electric Code”.
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.4 PROJECT CONDITIONS

- A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist onsite.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials. If acceptable to the Designer, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.
- B. Lumber and Plywood: Comply with requirements in Division 6 Section “Rough Carpentry”.
1. For fences and vision barriers, provide minimum 3/9” (9.5mm) thick exterior plywood.
 2. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8” (16mm) thick exterior plywood.
- C. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of (15) or less. For temporary enclosures, provide translucent, nylon-reinforced laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.

2.2 EQUIPMENT

- A. General: Provide new equipment. If acceptable to the Designer, the Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.

- B. Water Hoses: Provide ¾" (19mm), heavy-duty, abrasion-resistant, flexible rubber hoses 100' (30m) long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
- C. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage rating.
- D. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers, or a combination of extinguishers of NFPA-recommended classes for the exposures.
 - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.1 INSTALLATION

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

3.2 TEMPORARY UTILITY INSTALLATION

- A. Temporary Water Service: The Owner will provide water for construction purposes from the existing building system. All required temporary extensions shall be provided and removed by the Contractor. Connection points and methods of connection shall be designated and approved by the Construction Representative.
- B. Temporary Electric Power Service: The Owner will provide electric power for construction lighting and power tools.
- C. Temporary Telephones: Provide temporary telephone service throughout the construction period for all personnel engaged in construction activities.
 - 1. At each telephone, post a list of important telephone numbers.
- D. Temporary Toilets: The Owner will provide toilets and associated facilities within the building. All construction personnel will be allowed access only to those specific facilities designated by the Construction Representative.
- E. Wash Facilities: The Owner will provide wash facilities within the building. All construction personnel will be allowed access only to those specific facilities designated by the Construction Representative.
- F. Drinking-Water Facilities: The Owner will provide drinking water facilities within the building. All construction personnel will be allowed access only to those specific facilities designated by the Construction Representative.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Locate field offices, storage sheds, and other temporary construction and support facilities for easy access.
 - 1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Field Offices: Provide insulated, weathertight temporary offices, or job truck, or similar, of sufficient size to accommodate required office personnel at the Project site. Keep the office clean and orderly for use for small progress meetings.
- C. Storage facilities: Install storage container, sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility service if needed.
- D. Storage Facilities: Limited areas for storage of building materials are available onsite. Available storage areas are shown on the drawings. The Contractor shall provide his own security. Specific locations for storage and craning operations will be discussed at the Pre-Bid Meeting and the Pre-Construction Meeting.
- E. Construction Parking: Parking at the site will be provided in the areas designated at the Pre-Construction Meeting.
- F. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
 - 1. Install tarpaulins securely with incombustible wood framing and other materials. Close openings of 25SqFt (2.3SqM) or less with plywood or similar materials.
 - 2. Close openings through floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.
 - 3. Where temporary wood or plywood enclosure exceeds 100SqFt (9.2SqM) in area, use UL-labeled, fire-retardant-treated material for framing and main sheathing.
- G. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered “tools and equipment” and not temporary facilities.
- H. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than seven (7) days during normal weather or three (3) days when the temperature is expected to rise above 80°F (27°C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.
- I. Stairs: Cover finished, permanent stairs with a protective covering of plywood or similar material so finishes will be undamaged at the time of acceptance.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer, as requested by the Designer.
- B. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting including flashing red or amber lights.
- C. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
 - 1. Storage: Where materials and equipment must be stored and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- D. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near the site.

3.5 OPERATION, TERMINATION AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
 - 2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless the Designer requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are the Contractor's property. The Owner reserves the right to take possession of project identification signs.

END OF SECTION 015000

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SECTION 017400 – CLEANING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract including General and Supplementary Conditions, Bid Form, and other Division 1 Specification Sections apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for cleaning during the Project.
- B. Environmental Requirements: Conduct cleaning and waste-disposal operations in compliance with local laws and ordinances. Comply fully with federal and local environmental and anti-pollution regulations.
 - 1. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 2. Burning or burying of debris, rubbish, or other waste material on the premises is not permitted.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by the manufacturer or fabricator for the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

- A. General
 - 1. Retain all stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of materials.
 - 2. Do not allow the accumulation of scrap, debris, waste material, and other items not required for construction of this Work.
 - 3. At least twice a month, and more often if necessary, completely remove all scrap, debris, and waste material from the jobsite.
 - 4. Provide adequate storage for all items awaiting removal from the jobsite, observing all requirements for fire protection and protection of the ecology.
- B. Site
 - 1. Daily, inspect the site and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage.
 - 2. Weekly, inspect all arrangements of materials stored onsite. Re-stack, tidy, or otherwise service all material arrangements.

3. Maintain the site in a neat and orderly condition at all times.

C. Structures

1. Daily, inspect the structures and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage.
2. Weekly, sweep all interior spaces clean. "Clean" for the purposes of this paragraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort and handheld broom.
3. In preparation for installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using all equipment and materials required to achieve the required cleanliness.
4. Following the installation of finish floor materials, clean the finish floor daily while work is being performed in the space in which finish materials have been installed. "Clean" for the purposes of this subparagraph, shall be interpreted as meaning free from all foreign material which, in the opinion of the Construction Representative, may be injurious to the finish of the finish floor material.

3.2 FINAL CLEANING

- A. General: Provide final cleaning operations when indicated. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of Work to the condition expected from a commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
- B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for the entire Project or a portion of the Project.
 1. Clean the Project Site, yard and grounds, in areas disturbed by construction activities including landscape development areas, of rubbish, waste material, litter, and foreign substances.
 2. Sweep paved areas broom clean. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 3. Remove petrochemical spills, stains, and other foreign deposits.
 4. Remove tools, construction equipment, machinery, and surplus material from the site.
 5. Remove snow and ice to provide safe access to the building.
 6. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 7. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 8. Broom clean concrete floors in unoccupied spaces.
 9. Vacuum clean carpet and similar soft surfaces removing debris and excess nap. Shampoo, if required.
 10. Clean transparent material, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-

obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.

11. Remove labels that are not permanent labels.
 12. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 13. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 14. Clean plumbing fixtures to a sanitary condition free of stains, including stains resulting from water exposure.
 15. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 16. Clean ducts, blowers, and coils if units were operated without filters during construction
 17. Clean food-service equipment to a sanitary condition, ready and acceptable for its intended use.
 18. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs and defective and noisy starters in fluorescent and mercury vapor fixtures.
 19. Leave the Project clean and ready for occupancy.
- C. Removal of Protection: Remove temporary protection and facilities installed during construction to protect previously completed installations during the remainder of the construction period.
- D. Compliances: Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from the site and dispose of lawfully.
1. Where extra materials of value remain after Final Acceptance by the Owner, they become the Owner's property.

END OF SECTION 017400

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SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.

1.2 DEFINITIONS

- A. **Remove:** Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. **Remove and Salvage:** Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. **Remove and Reinstall:** Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. **Existing to Remain:** Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 PREINSTALLATION MEETINGS

- A. **Predemolition Conference:** Conduct conference at Project site.

1.4 INFORMATIONAL SUBMITTALS

- A. **Qualification Data:** For refrigerant recovery technician.
- B. **Predemolition Photographs or Video:** Submit before Work begins.
- C. **Statement of Refrigerant Recovery:** Signed by refrigerant recovery technician.

1.5 CLOSEOUT SUBMITTALS

- A. **Landfill Records:** Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.6 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Hazardous materials are present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use and included in the appendix of the specifications. Examine report to become aware of locations where hazardous materials are present.
 - 1. Hazardous material remediation is specified elsewhere in the Contract Documents.
 - 2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.7 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs, or preconstruction videotapes and/or templates.
 - 1. Coordinate requirements with architect for "Photographic Documentation."

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
 - 1. Comply with requirements for existing services/systems interruptions specified in Division 01 Section "Summary."
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. Arrange to shut off indicated utilities with utility companies.
 - 3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

- f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
- g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with requirements for access and protection specified in Division 01 Section "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 - 4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 5. Dispose of demolished items and materials promptly.
- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

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DIVISION 1

Section 028213 – ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 PROJECT/WORK IDENTIFICATION

- A. 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.
- B. The contractor shall supply all labor, materials, equipment, testing, services, permits, notifications, insurance, and incidentals which are necessary or required to perform the work in accordance with applicable local, state, and federal regulations as may be necessary for the abatement of asbestos containing materials and for other work as specified in this section or as indicated in associated drawings, sketches, or details of the work.
- C. Scope of Work:
 - 1. Abate/remove previously identified asbestos-containing interior window caulk in Wheeler Hall of the Missouri School for the Deaf in Fulton, Missouri.
- D. All abatement work areas must pass visual inspection as well as final clearance air-monitoring (by independent TPAM).
- E. Owner’s Construction Representative: Brad Schaefer, Office of Administration, FMDC

1.2 LIST OF MATERIALS CONTAINING ASBESTOS (TO BE ABATED)

Material	Asbestos Content	Location & Total Quantity
Interior Window Caulk	2% Chrysotile	Basement, First and Second Floor 95 Windows First Floor West Door 1 Door

Note: Contractor is responsible for verifying all materials and quantities identified above prior to submitting their bid. The final quantity of interior window caulk to be abated will be based on the construction specifications.

1.3 TERMINOLOGY/DEFINITIONS/ABBREVIATIONS

- A. Definitions:
 - 1. Abatement: The Encapsulation, Enclosure and/or Removal of Asbestos Containing Materials (ACM). For Category I Non-friable ACM which will remain non-friable throughout disposal, abatement procedures will be modified and simplified as found within these and other applicable regulations.
 - 2. Adequately Wet: To sufficiently mix or penetrate with liquid to prevent the release of particulates.

3. AHERA: Asbestos Hazard Emergency Response Act of 1966 (P.L. 99-519).
4. Aggressive Air Sampling: Sweeping of floors, ceilings and walls and other surfaces with the exhaust of a minimum of one horsepower leaf blower or equivalent immediately prior to air monitoring.
5. Air Sampling Professional: An individual, certified by the State of Missouri, who supervises air sampling activities during asbestos abatement projects.
6. Air Sampling Technician: An individual, under the supervision of an Air Sampling Professional, who performs air sampling during asbestos abatement projects.
7. Asbestos: The asbestiform varieties of serpentinite (chrysotile, antigorite), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above materials and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.
8. Asbestos Abatement Project Designer: An individual, certified by the State of Missouri, who prepares plans and specifications for asbestos abatement projects.
9. Asbestos Abatement Supervisor: An individual, certified by the State of Missouri, who directs, controls, and/or supervises workers during an asbestos abatement project.
10. Asbestos Abatement Worker: An individual, certified by the State of Missouri, who performs asbestos abatement.
11. Asbestos-Containing Material (ACM): Any material or product which contains more than 1 percent asbestos by weight as determined by using the Polarized Light Microscopy method.
12. Asbestos-Containing Building Material (ACBM): Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on building components.
13. Asbestos Containing Building Material (ACBM) Repair: The restoration of ACBM to an undamaged condition or to an intact state so as to prevent fiber release.
14. Asbestos-Containing Waste Material (ACWM): Any material to be removed from a work area for disposal that is an asbestos containing material (ACM) or is suspected of being contaminated with ACM.
15. Barrier: Any surface that seals off the work area to inhibit the movement of asbestos fibers.
16. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.

17. Category I Non-friable 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.
18. Category II Non-friable ACM: Any material, excluding category I non-friable ACM, containing more than one percent (1%) asbestos as determined using the methods specified in 40 CFR part 768, subpart F, Appendix A, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.
19. Certified Industrial Hygienist (C.I.H.): An industrial hygienist, certified in Comprehensive Practice by the American Board of Industrial Hygiene.
20. Competent Person: An individual, capable of identifying existing asbestos hazards in the workplace and who has authority to take prompt corrective measures to eliminate them. His duties include: establishing the negative-pressure enclosure, ensuring its integrity, and controlling entry to and exit from the enclosure; supervising any employee exposure monitoring; ensuring that all employees working within such an enclosure wear the appropriate personal protective equipment, are trained in the use of appropriate methods of exposure control, and in the use of hygiene facilities and decontamination procedures; and ensuring that engineering controls in use are in proper operating condition and are functioning properly. An individual who has been certified by the State of Missouri as an Asbestos Abatement Supervisor is considered a "Competent Person".
21. Owner's Construction Representative: An employee of the Division of Design and Construction representing the Director during the construction phase of the contract commencing at Notice of Award.
22. Containment: Area where asbestos abatement project is conducted. Area must be enclosed either by a glove bag or plastic sheeting barriers.
23. Critical Barrier: Plastic sheeting or other material to be placed over Work Area openings (i.e., windows, HVAC supply and return vents, doors, electrical fixtures, etc.).
24. Decontamination Facility: The serial arrangement of rooms or spaces for the purpose of separating the work site from the building environment upon entering the Work Area and for the cleaning of persons, equipment and contained waste prior to returning to the clean environment.
25. Disposal Bag: A properly labeled 6 mil. thick leak-tight clear plastic bag used for transporting asbestos waste from work site and to the disposal site.
26. Encapsulant (Sealant): A liquid material which can be applied to asbestos-containing material and which prevents the release of asbestos fibers from the ACM either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the ACM and binding its components together (penetrating encapsulant) or is specifically designed to minimize fiber release during removal of ACM (removal encapsulant).

27. Encapsulation: Treatment of asbestos-containing materials with an encapsulant.
28. Enclosure: The construction of an airtight, impact resistant barrier to isolate a surface coated with ACM.
29. Friable: Any material which when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
30. Glove Bag: A manufactured or fabricated device, typically constructed of six mil transparent polyethylene or polyvinyl chloride plastic. This device consists of two inward projecting long sleeves, an internal tool pouch and an attached, labeled receptacle for asbestos waste.
31. Initial Exposure Assessment: Is a required assessment to be performed by the Contractor's Competent Person (Asbestos Abatement Supervisor) concerning the exposure potential of a specific asbestos projects, or series of similar asbestos projects. If it is concluded that the employee exposures during the project are likely to be consistently below the Permissible Exposure Limit, the Contractor establishes a Negative Initial Exposure Assessment.
32. Outside Air: Air outside containment.
33. Permissible Exposure Limit (PEL): Eight-hour time weighted average of 0.1 fibers/cubic centimeter.
34. Personal Monitoring: Sampling of the asbestos fiber concentrations within the Breathing Zone.
35. Regulated Asbestos-Containing Material (RACM): Friable asbestos material; Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; or Category II non-friable 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.
36. Removal: To take out or eliminate ACM from building components, materials, substrates.
37. Third Party Air Monitor (TPAM): The Air Sampling Professional who conducts air monitoring in who is not under the direct control of the abatement contractor and who has been selected by the owner.
38. Visible Emission: Any discharge of an air contaminant into the atmosphere that is visually detectable without the aid of instruments.
39. Work Area: A specific room or physically isolated portion of a room, other than the space enclosed within a glove bag, in which friable asbestos-containing material is required to be handled in accordance with current federal and state regulations. The area is designated as a work area from the time that the room, or portion of it, 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.

B. Abbreviations:

1. AIA: American Institute of Architects
2. AIHA: American Industrial Hygiene Association
3. MDNR: Missouri Department of Natural Resources
4. DEQ: Division of Environmental Quality, MDNR
5. DOT: U. S. Department of Transportation
6. EPA: U. S. Environmental Protection Agency
7. MDH: Missouri Department of Health
8. NIOSH: National Institute for Occupational Safety and Health
9. NVLAP: National Voluntary Laboratory Accreditation Program
10. OSHA: Occupational Safety and Health Administration, U. S. Department of Labor.
11. TPAM: Third Party Air Monitor

1.4 SUMMARY OF REQUIREMENTS:

- A. All work performed on this project shall be done in the strictest accordance with applicable federal, state and local regulations, standards and codes governing asbestos abatement and any other trade work done in conjunction with the abatement. All applicable codes, regulations and standards are adopted into this specification and will have the same force and effect as this specification.
- B. The most recent edition of any relevant regulation, standard, document or code shall be in effect. Where conflict among requirements or these specifications exists, the most stringent requirements shall be utilized.
- C. Because asbestos exposure is a serious health hazard, construction work involving any asbestos-containing materials is regulated by the Occupational Safety and Health Administration Regulations. Compliance with OSHA regulations in the completion of this project is the **sole** responsibility of the contractor. OSHA regulations include, but are not limited to, conducting appropriate negative exposure assessments and/or daily personnel air monitoring. However, the following requirements will apply regardless of the removal methods to be employed:
 1. Regardless of the removal methods employed, the contractor shall immediately stop work in the event of any of the following:
 - a. Visible Emissions (as defined in this document), or
 - b. Sanding, grinding, cutting abrading, removal by open flame, or

- c. Breathing Zone air samples exceed the PEL or Excursion Limit; furthermore, the contractor shall implement corrective work practices upon the approval of the Asbestos Abatement Project Designer, make re-notification to all regulatory agencies of the changes in work practices and material conditions, and comply with all referenced regulations in this document and the applicable sections of this specification as noted.
 2. If any of the conditions in subparagraph e above are observed by the Owner's Construction Representative or by the Third-Party Air Monitor (TPAM), then either of these parties has the right to issue a directive to stop work. The Contractor shall be obligated to implement corrective action. The contractor shall not be entitled to additional compensation.
- D. NON-FRIABLE ACM. The caulk within the scope of work is considered a non-friable Category II material. The Contractor is strongly encouraged to remove the caulk using methods that will not render the material friable. All applicable federal, state, and local requirements, including notifications, should be followed.
 1. Establish a regulated area.
 2. Make notifications in compliance with Section 2.1 of this specification.
 3. Wet subject material thoroughly using a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently without causing excess dripping. The contractor shall make sure that the material is thoroughly wet throughout the removal process.
 4. Remove the window system from the building.
 5. Remove remaining interior caulk in sections that are easily handled and to minimize breaking.
 6. Place material in disposal bags, drums or wrap in polyethylene sheeting as required by regulation.
 7. Dispose of the material as Regulated Asbestos Containing Material (RACM).

1.5 PROJECT COORDINATION

- A. Contractor shall coordinate and schedule all phases of the work of the contract documents under his control with the Owner's Construction Representative, Facility Representative, any subcontractors, materials suppliers, and other parties involved as necessary to ensure the smooth and orderly transition of separate phases, timely placement of items and materials, cooperation between parties, and proper execution of the work. **Contractor must give the TPAM at least two business days notice of start of work or change of work schedule. The contractor will be required to reimburse the State of Missouri for hours TPAM worked and for their expenses if the TPAM mobilizes and abatement work has been canceled, delayed, or postponed for that day.**

- B. All coordination necessary with the facility will be made through the Facility Representative or their designated representative. The Owner's Construction Representative and Facility Representative prior to the start of any work will approve scheduling and access to the work areas.
- C. Normal working hours of the facility will be observed in performing the work unless the Facility Representative and Owner's Construction Representative approves the modification as addressed in the Special Conditions.
- D. Contractor shall not communicate with any news or media outlets. Any news media inquiries or releases shall be directed to the Facilities Management Design and Construction Division at (573) 751-3339.
- E. The contractor, project superintendent, subcontractors, and other appropriate parties shall attend meetings as scheduled and as otherwise necessary to accomplish the work in a timely and efficient manner. Meetings shall include but are not limited to the following:
 - 1. Pre-Construction Meeting: The Owner's Construction Representative may schedule a pre-construction meeting after the Notice of Award has been issued. The Owner's Construction Representative will determine the date, time, and exact place of this meeting and all necessary parties will be notified, if need be. During the meeting, discussions will be held in regard to construction procedures, scheduling requirements, general conditions, special conditions, channels of communication, responsible persons, requirements for submittals, documentation requirements, payment applications, and other pertinent information necessary for completing the work. Specific requirements of the facility in regard to security, safety, utilities, access to buildings, and related matters will also be discussed.
 - 2. If, in the opinion of the Owner's Construction Representative, additional meetings are required to maintain progress or scheduling requirements on the work, additional meetings will be scheduled.
- F. All fees required for notification requirements, re-notifications, and/or inspections by the Department of Natural Resources and all other federal, state, or local agencies shall be paid by the contractor. If necessary, bulk samples analysis information required in conjunction with the notification to the Missouri Department of Natural Resources, U. S. Environmental Protection Agency or city having jurisdiction shall be provided by the contractor unless provided within this specification.
- G. Should the project fall behind schedule the abatement contractor is expected to take such steps, as necessary, to complete the project on time. The contractor will be entitled to no additional compensation for implementation of such steps to maintain the work schedule.

PART 2 - EXECUTION

2.1 NOTIFICATIONS

- A. A courtesy abatement notification shall be submitted to the MDNR. Use EPA form “Notification of Demolition and Renovation and the MDNR form “Asbestos Project Notification”, to all applicable federal, state, and local agencies, including but not limited to those listed below. **Draft copies of all notifications shall be submitted to the Consultant at least 3 days prior to being submitted to the regulatory agencies.**
1. Department of Natural Resources
Air Pollution Control Program (ASBESTOS)
P. O. Box 176
Jefferson City, MO 65102
 2. Provide copies of these notifications to the Owner’s Construction Representative, with the Facilities Management Design and Construction Division as well as SCI Engineering.

2.2 SUBMITTALS

- A. The following submittals will be required of the contractor prior to commencement of work and are subject to approval by the Owner’s Construction Representative. The contractor shall send one copy of the submittals for approval to the Owner’s Construction Representative.
1. Copy of Material Safety Data Sheets (MSDS) for each product to be used by the contractor in the performance of his work. Contractor will also maintain copies of the MSDS on site, per OSHA.
 2. A copy of the courtesy notifications to regulatory agencies as required in Section 2.1 of this specification.
 3. Current training certificates and MDNR licenses for project superintendent, asbestos abatement supervisor(s), and asbestos workers. Superintendent shall meet the qualifications established in Section 3.8 of these specifications.
 4. Name, address, and contact person’s name of testing laboratory or laboratories to be utilized by the contractor (this is not the TPAM) in analyzing samples for bulk analysis or air monitoring from taking personal air samples. Required by OSHA.
 5. Provide a detailed work schedule with milestones for the completion of the project within the established timeframe.
 6. Provide a disposal plan to detail the types of disposal containers to be used, the methods of transportation to the disposal site, the waste hauler, and disposal site.
 7. Copies of notifications required as part of the emergency notification plan in Section 3.6 of this specification.
- B. Upon completion of the work and prior to final payment, the following information must be submitted to the Owner’s Construction Representative.

1. Waste disposal receipts and waste shipment record on all asbestos waste removed from the project. The enclosed Waste Shipment Record and Receipt form (or something similar) must be used for every load brought to the waste disposal site. The disposal and/or shipment record must include the following information:
 - a. Work site name and address
 - b. Project Number
 - c. Owner's name and telephone
 - d. Operator's (Contractor's) name, address and telephone
 - e. Waste Disposal Site name, address and telephone
 - f. Name and address of responsible agency
 - g. Type of materials and quantity in cubic yards or tons.
 - h. Name, address and phone number of transporter, and date of transport
 - i. Name, address and phone number of Waste Disposal Site representative and date material was received.
2. Air monitoring test results from all air samples taken by the TPAM during abatement, to include area, in progress, final clearance and personal tests. Results must be written in final report form.
3. Written certification from the TPAM as required in Section 3.7 of this specification.
4. Any other specific requirements spelled out in the General Conditions.

2.3 TESTING LABORATORY

- A. Testing laboratories utilized by the contractor for OSHA required sample analysis during the project shall meet the following minimum requirements:
 1. For bulk sample analysis, the laboratory must be accredited by the National Voluntary Laboratory Accreditation Program for asbestos fiber analysis.
 2. For air samples analyzed by Phase Contrast Microscopy, the laboratory must be accredited by the American Industrial Hygiene Association.
 3. For air samples analyzed by Transmission Electron Microscopy, the laboratory must be accredited by the National Voluntary Laboratory Accreditation Program.
 4. On-site analysis by Phase Contrast Microscopy, when applicable, shall be by an Air Sampling Technician or Air Sampling Professional who has completed a NIOSH 582 course or equivalent.

5. Neither the contractor, nor any of his principals, officers, or directors may have any financial or business interests in any laboratory utilized on this contract.

2.4 LOCAL AREA PROTECTION/SITE SECURITY

- A. The contractor shall be responsible for all areas of the building used by him and/or subcontractors in the performance of the work. He shall exert full control over the actions of all employees and subcontractors with respect to the use and preservation of the existing building, except such controls as may be specifically reserved to the owner by these specifications.
- B. The 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 as he requires his employees.
- C. The contractor shall have control of site security during abatement operations in order to protect his work and equipment. He will have the owner's assistance in notifying building occupants of impending activity and enforcement of restricted access by owner's employees.
- D. The contractor shall keep, as a minimum, two 10-pound type ABC fire extinguishers on site at all times. One extinguisher will be maintained outside the work area and one inside the work area. The contractor's employees shall be trained in the use and operation of the extinguishers.
- E. The contractor shall use as small an area as necessary for storage of supplies and equipment and shall keep such in a neat and orderly fashion.
- F. Contractor is prohibited from entering portions of the building not required for completion of their scope of work.
- G. The contractor shall maintain the work area free from rubbish, debris, and dirt and keep a clean safe work area. The contractor shall take measures to keep surfaces free from contamination or shall clean and lock down surfaces after work is done, protect with plastic sheeting and/or plywood during work, or remove from the work area. Trash must be removed daily and will not be allowed to accumulate.
- H. Contractor is responsible for all damage to the structure other than that required for the removal of the ACMs. At the conclusion of the project, the contractor must repair such incidental damage including tape and glue residue, paint coatings and damage to surfaces, finishes and building components.**
- I. No signage, equipment or materials shall be placed or stored outside the work area.**

2.5 WORKER PROTECTION/TRAINING

- A. The contractor shall be responsible for providing his employees with proper respiratory protection, respiratory training, a written respirator program, medical examinations, protective clothing and equipment and for maintaining medical records to comply with OSHA requirements.
- B. The contractor shall be responsible for all testing and costs incurred for complying with requirements OSHA regulations for Personal Monitoring.
- C. All workers are to be trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and protective measures.

2.6 EMERGENCY PROTECTION PLAN

- A. The contractor shall be responsible for developing a written site-specific Emergency Protection Plan and shall maintain this plan on site. The plan shall include considerations for asbestos leakage from site, fire, explosion, toxic atmospheres, electrical hazards, slips, falls, and heat related injury. All employees shall be instructed and trained in the procedures.
- B. Emergency protection planning shall also include written notification of police, fire, and medical personnel of the planned abatement activities, work schedule, and the layout of the work area, particularly barriers that may affect response capabilities.

2.7 THIRD PARTY AIR MONITORING

- A. The Owner will contract with an Air Sampling Professional to perform the following minimum duties:
 - 1. Review Contractor's work plan and provide recommendations.
 - 2. During the TPAM will collect samples outside the work area to determine the effectiveness of work practices and control measures used by the contractor to contain asbestos fibers inside the work area. The TPAM will determine the number, frequency and location of the samples. Samples shall be analyzed by PCM. Any result above the OSHA PEL of 0.1 f/cc 8 hr TWA, or EL of 1.0 f/cc 30 min TWA must be immediately reported to the Owner's Construction Representative and cause operations to cease and corrective measures be taken.
 - 3. Provide Owner's Construction Representative with daily abatement reports describing amount and type of work done, regulatory concerns, notable air monitoring reports, etc.
 - 4. A visual inspection of the work area will be conducted at completion of abatement.
 - 5. Confirm that the contractor's procedures, methods, and practices were in full compliance with current federal or state regulations.
- B. The TPAM must be independent from the abatement contractor.

2.8 SUPERINTENDENCE OF ABATEMENT

- A. The contractor shall designate an abatement superintendent, who will serve as the contractor's representative on the project and will ensure that all work is performed in compliance with all applicable regulations and following minimum requirements:
1. The Abatement Superintendent must be certified as an Asbestos Abatement Supervisor and must have at least one-year full-time experience in asbestos abatement work.
 2. Shall be on site whenever work is going on.
 3. Maintain a daily log documenting project events, visitations/inspections, problems, and accidents.
 4. Implement first aid, safety training, respiratory protection, and ensure workers are trained in emergency procedures.
 5. Conduct visual inspection of the work area prior to TPAM's final clearance inspection. This inspection shall be documented.
 6. Supervise activities of any subcontractors of the contractor to ensure compliance with contract documents.
 7. Duties shall include those for the "Competent Person" as defined in this specification.
 8. Superintendent must have a cellular telephone when at the project site and the contact information for the supervisor provided to the construction manager and TPAM.

2.9 FINAL CLEARANCE REQUIREMENTS

- A. All critical barriers and/or containment must remain in place until work area is cleared by TPAM and Owner's Construction Representative in accordance with this section.
- B. The TPAM, in addition to the requirements listed in Section 3.7 TPAM, will collect samples outside the work area to determine the effectiveness of work practices and control measures used by the contractor to contain asbestos fibers inside the work area. The TPAM will determine the number, frequency and location of the samples. In certain situations, these in-progress samples will act as clearance samples.
- C. Following the completion of the abatement work, the abatement superintendent shall notify the Owner's Construction Representative. The superintendent shall then perform a visual inspection of the work area. If satisfactory, he shall contact the TPAM. The TPAM shall perform a visual inspection and final air monitoring for clearance if he/she feels the area is ready. All clearance samples will be analyzed, at a minimum, by the PCM (NIOSH 7400) method, unless specifically stated elsewhere within this specification. The TPAM shall take a minimum of 5 samples inside each affected functional space and 1 field blank. The abatement shall be considered complete when the result of each of 5 inside clearance samples indicate airborne fiber ($> 0.25 \text{ } \mu\text{m dia. X } 5 \text{ } \mu\text{m L}$) concentrations are no greater

than the PCM limit of quantitation of 0.01 f/cc of air. Test results should be made available to the contractor within 24 hours.

If the NIOSH 7400 PCM clearance sampling method fails, then the TEM method 7402 may be utilized to further evaluate the air sample(s) that exceed 0.01 f/cc. The TPAM will be responsible for determining if a failing PCM sample will be analyzed by TEM 7402.

- D. Any work areas failing to meet the clearance requirements of this section shall be re-cleaned and re-tested at the contractor's expense until satisfactory levels are obtained. The owner will not reimburse the contractor for re-cleaning the work area. The TPAM will separate their costs for the re-testing from their already agreed upon services. The owner will deduct, by contract change, the cost of the TPAM's re-testing activities including any lab fees, travel and re-inspection and / or air monitoring fees from the contractor's contract amount.**

2.10 RE-ESTABLISHMENT OF THE WORK AREA AND SYSTEMS

- A. Re-establishment of the work area shall only occur after the contractor has complied with the clearance requirements of Section 3.9. All barriers, signs, trash, and equipment shall then be removed from the site. All electrical and HVAC systems shall be re-established.
- B. 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 was prior to the work, at no cost to the owner.

2.11 WASTE DISPOSAL

- A. All Asbestos Containing Waste Material (ACWM) shall be disposed of in compliance with current federal and state regulations.
- B. ACM shall be disposed of in a Missouri licensed demolition landfill or a sanitary landfill having a state permit to operate and accept such waste.
- C. A chain of custody letter/waste shipment record and disposal receipts shall be provided to the owner for all materials disposed of.
- D. The waste shipment record shall be originated and signed by the waste generator and shall be used to track and substantiate the disposition of ACWM.

2.12 DRAWINGS

- A. For the purpose of this specification, drawings, when provided, are not intended to be used for anything other than a "reference" to the work area. Information is not specific to quantities or to the exact location of ACM. The contractor is required to field verify the conditions, locations, and quantities referenced.

3.0 CODES AND REGULATIONS

- A. This section sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of this specification.

- B. Requirements include adherence to work practices and procedures set forth in applicable codes, regulations and standards.
- C. General Applicability of Codes, Regulations and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, 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. In the event of conflicting applicable codes, regulations, standards, statutes, laws, or rules, the more stringent shall apply to these specifications.
- D. Contractor Responsibility: The contractor shall assume full responsibility and liability for 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, record keeping or other regulation on the part of himself, his employees, or his subcontractors.
- E. 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:
 - a. Title 20, Part 1910, Section 1001 and Part 1926, Section 58 of the Code of Federal Regulations.
 - b. Respiratory Protection, Title 29, Part 1910, Section 134 of the Code of Federal Regulations.
 - c. Construction Industry, Title 29, Part 1926, of the Code of Federal Regulations.
 - d. Access to Employee Exposure and Medical Records, Title, 29, Part 1910, Section 2 of the Code of Federal Regulations.
 - e. Hazard Communication, Title 29, Part 1910, Section 1200 of the Code of Federal Regulations.
 - f. 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:
 - a. National Emission Standards for Hazardous Air Pollutants (NESHAPS) Title 40, Part 61, Subpart M of the Code of Federal Regulations.
 - b. Asbestos Hazard Emergency Response Act (AHERA), Public Law (99-519) applicable only on schools.

- c. Asbestos-Containing Materials in Schools: Title 40, Part 763 of the Code of Federal Regulations, applicable only on schools.
- 3. U. S. Department of Transportation (DOT)
 - a. Title 49, Part 172, Section 101 of the Code of Federal Regulations.
- 4. State of Missouri
 - a) H.B. 77, 85th General Assembly.
 - b) Missouri Air Conservation Law, Chapter 643.
 - c) Due to a recent court decision, the following Code of State Regulations do not apply to this specification:
 - 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) 10 CSR 10-6.240, Asbestos Abatement Projects-Registration, Notification and Performance Requirements.
 - 5) 10 CSR 10-6.250, Asbestos Abatement Projects - Certification, Accreditation, and Business Exemption Requirements.

END OF SECTION

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SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

- 1) Wood blocking, cants, and nailers.
- 2) Wood furring and grounds.

1.2 RELATED DOCUMENTS

- ##### A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.3 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

1. Include data for wood-preservative and fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the American Lumber Standards Committee Board of Review.

C. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:

1. Wood-preservative-treated wood.
2. Fire-retardant-treated wood.
3. Engineered wood products.
4. Power-driven fasteners.
5. Expansion anchors.
6. Metal framing anchors.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- B. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Provide dressed lumber, S4S, unless otherwise indicated.
- C. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
 - 1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPA C2, except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPA C31 with inorganic boron (SBX).
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete.
 - 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
 - 4. Wood framing members that are less than 18 inches (460 mm) above the ground in crawlspaces or unexcavated areas.
 - 5. Wood floor plates that are installed over concrete slabs-on-grade.

2.2 DIMENSION LUMBER FRAMING

- A. Maximum Moisture Content: 19 percent
- B. Framing: Any species and grade with a modulus of elasticity of at least 1,500,000 psi and an extreme fiber stress in bending of at least 1000 psi for 2-inch nominal thickness and 12-inch nominal width for single-member use.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Furring.
 - 4. Grounds.
- B. For items of dimension lumber size, provide Standard, Stud, or No. 3 grade lumber with 19 percent maximum moisture content of any species.
- C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:
 - 1. Mixed southern pine, No. 2 grade; SPIB.
 - 2. Eastern softwoods, No. 2 Common grade; NeLMA.
 - 3. Northern species, No. 2 Common grade; NLGA.
 - 4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified.
 - 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Power-Driven Fasteners: NES NER-272.
- C. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

2.5 METAL FRAMING ANCHORS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- B. Basis-of-Design Products: Subject to compliance with requirements, provide products indicated on Drawings or refer to Section 011000 for Substitution Procedures:

1. Simpson Strong-Tie Co., Inc.
 2. USP Structural Connectors.
 3. Or alternate
- C. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer that meet or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
- D. Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.

2.6 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch nominal thickness, compressible to 1/32 inch; selected from manufacturer's standard widths to suit width of sill members indicated.
- B. Flexible Flashing: Self-adhesive, rubberized-asphalt compound, bonded to a high-density, polyethylene film to produce an overall thickness of not less than 0.025 inch.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- D. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.
- E. Do not splice structural members between supports, unless otherwise indicated.
- F. Comply with AWWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- G. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
1. NES NER-272 for power-driven fasteners.
 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

3.2 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Latex joint sealants.
 - 4. Preformed joint sealants.
 - 5. Acoustical joint sealants.

1.2 PRECONSTRUCTION TESTING

- A. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates. Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples: For each kind and color of joint sealant required.
- C. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.4 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Preconstruction compatibility and adhesion test reports.
- C. Preconstruction field-adhesion test reports.
- D. Field-adhesion test reports.
- E. Warranties.

1.5 QUALITY ASSURANCE

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

1.6 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

- 1. Warranty Period: One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

- 1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.

- B. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

- C. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

2.2 SILICONE JOINT SEALANTS

- A. Mildew-Resistant Neutral-Curing Silicone Joint Sealant: ASTM C 920.

- 1. 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:

- a. BASF Building Systems.
- b. Dow Corning Corporation.
- c. GE Advanced Materials - Silicones.
- d. May National Associates, Inc.
- e. Pecora Corporation.
- f. Polymeric Systems, Inc.
- g. Schnee-Morehead, Inc.
- h. Sika Corporation; Construction Products Division.

- i. Tremco Incorporated.
2. Type: Single component (S) or multicomponent (M).
3. Grade: Pourable (P) or nonsag (NS).
4. Class: 100/50.
5. Uses Related to Exposure: Traffic (T) Nontraffic (NT).

2.3 URETHANE JOINT SEALANTS

A. Urethane Joint Sealant: ASTM C 920.

1. 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:
 - a. BASF Building Systems.
 - b. Bostik, Inc.
 - c. Lyntal, International, Inc.
 - d. May National Associates, Inc.
 - e. Pacific Polymers International, Inc.
 - f. Pecora Corporation.
 - g. Polymeric Systems, Inc.
 - h. Schnee-Morehead, Inc.
 - i. Sika Corporation; Construction Products Division.
 - j. Tremco Incorporated.
2. Type: Single component (S) or multicomponent (M).
3. Grade: Pourable (P) or nonsag (NS).
4. Class: 100/50.
5. Uses Related to Exposure: Traffic (T) Nontraffic (NT).

2.4 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

1. 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:
 - a. BASF Building Systems.
 - b. Bostik, Inc.
 - c. May National Associates, Inc.
 - d. Pecora Corporation.
 - e. Schnee-Morehead, Inc.
 - f. Tremco Incorporated.

2.5 PREFORMED JOINT SEALANTS

- A. Preformed Foam Joint Sealant: Manufacturer's standard preformed, precompressed, open-cell foam sealant manufactured from urethane foam with minimum density of 10 lb/cu. ft. (160 kg/cu. m) and impregnated with a nondrying, water-repellent agent. Factory produce in precompressed sizes in roll or stick form to fit joint widths indicated; coated on one side with a pressure-sensitive adhesive and covered with protective wrapping.
1. 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:
 - a. Dayton Superior Specialty Chemicals.
 - b. EMSEAL Joint Systems, Ltd.
 - c. Sandell Manufacturing Co.
 - d. Schul International, Inc.
 - e. Willseal USA, LLC.

2.6 ACOUSTICAL JOINT SEALANTS

- A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
1. 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:
 - a. Pecora Corporation.
 - b. USG Corporation.
 - c. Tremco Incorporated
 - d. Or approved equal

2.7 JOINT SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.8 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
 - 1. Remove laitance and form-release agents from concrete.
 - 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.

2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
- F. Acoustical Sealant Installation: Comply with ASTM C 919 and with manufacturer's written recommendations.
- G. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.
- 3.3 FIELD QUALITY CONTROL
- A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
1. Extent of Testing: Test completed and cured sealant joints as follows:
 - a. Perform 10 tests for the first 1000 feet (300 m) of joint length for each kind of sealant and joint substrate.
 2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
- B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.
- 3.4 JOINT-SEALANT SCHEDULE
- A. Exterior Joint Types:
- | | |
|---|-----------------------|
| 1. Masonry Expansion Joints | Two-part polyurethane |
| 2. Metal to Masonry | Two-Part polyurethane |
| 3. Metal to Metal | Two-Part polyurethane |
| 4. General Flashing and Flashing to Masonry | One-part polyurethane |
| 5. Sleeves in wall | One-part polyurethane |
| 6. Concrete Joints | One-part polyurethane |
- B. Interior Joint Types:
- | | |
|--|-----------------------|
| 1. Gyp. Board/Plaster to Masonry/Wood | Acrylic |
| 2. Int. Hollow Metal Frame in Masonry Wall | Acrylic |
| 3. Metal to Drywall, plaster, masonry | Acrylic |
| 4. Metal to Masonry | Two-part polyurethane |
| 5. Perimeter of Plumbing Fixtures | Silicone Base |

END OF SECTION 079200

SECTION 084113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior storefront framing.
2. Exterior manual-swing entrance doors and door frame units.

1.2 PERFORMANCE REQUIREMENTS

A. Single source requirement

1. All products listed in 084113, 085113, 087100, and 088000 shall be sourced by the same manufacturer.

B. General Performance: Aluminum-framed systems shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:

1. Movements of supporting structure indicated on Drawings including, but not limited to, story drift and deflection from uniformly distributed and concentrated live loads.
2. Dimensional tolerances of building frame and other adjacent construction.
3. Failure includes the following:
 - a. Deflection exceeding specified limits.
 - b. Thermal stresses transferring to building structure.
 - c. Framing members transferring stresses, including those caused by thermal and structural movements to glazing.
 - d. Noise or vibration created by wind and by thermal and structural movements.
 - e. Loosening or weakening of fasteners, attachments, and other components.
 - f. Failure of operating units.

C. Delegated Design: Design aluminum-framed systems, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

D. Wind Loads: 28.2 psf positive and negative; 23.4 psf negative at corner zones.

E. Deflection of Framing Members:

1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane shall not exceed L/175 of the glass edge length for each individual glazing lite or an amount that restricts edge deflection of individual glazing lites to **3/4 inch (19 mm)**, whichever is less.

- F. Structural-Test Performance: Provide aluminum-framed systems tested according to ASTM E 330 as follows:
 - 1. When tested at 150 percent of positive and negative wind-load design pressures, systems, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
 - 2. Test Durations: 10 seconds.
- G. Air Infiltration: Provide aluminum-framed systems with maximum air leakage through fixed glazing and framing areas of 0.06 cfm/sq. ft. (0.03 L/s per sq. m) of fixed wall area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pa).
- H. Water Penetration under Static Pressure: Provide aluminum-framed systems that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For aluminum-framed systems. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Include details of provisions for system expansion and contraction and for drainage of moisture in the system to the exterior.
- C. Samples: For each type of exposed finish required.
- D. Other Action Submittals:
 - 1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams.

1.4 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Field quality-control reports.
- C. Warranties: Sample of special warranties.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance data.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Testing Agency Qualifications: Qualified according to ASTM E 699 for testing indicated.
- C. Engineering Responsibility: Prepare data for aluminum-framed systems, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in systems similar to those indicated for this Project.
- D. Product Options: Information on Drawings and in Specifications establishes requirements for systems' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.
- E. Source Limitations for Aluminum-Framed Systems: Obtain from single source from single manufacturer.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of aluminum-framed systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes do not comply with requirements or that fail in materials or workmanship within specified warranty period. Warranty does not include normal weathering.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS (Storefront and Aluminum Doors)

- A. Quaker Windows
 - 1. Basis-of-Design Product Storefront: FL300T Coral Architectural Series by Quaker
 - 2. Basis-of-Design Product Aluminum doors: Coral Wide Style Entrance by Quaker
- B. Manko Windows
 - 1. Manko Window Systems, Inc. 2450 Series Thermally Broken Storefront Framing (2" x 4-1/2")
 - 2. Manko Window Systems, Inc. 150 Wide Stile Aluminum Swing Door

- C. EFCO Corporation.
 - 1. 403 system windows Manko Window Systems, Inc. 2450 Series Thermally Broken Storefront Framing (2" x 4-1/2")
 - 2. 500 series door.

2.2 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
 - 1. Sheet and Plate: **ASTM B 209 (ASTM B 209M)**.
 - 2. Extruded Bars, Rods, Profiles, and Tubes: **ASTM B 221 (ASTM B 221M)**.
 - 3. Extruded Structural Pipe and Tubes: ASTM B 429.
 - 4. Structural Profiles: ASTM B 308/B 308M.
 - 5. Welding Rods and Bare Electrodes: AWS A5.10/A5.10M.
- B. Steel Reinforcement: Manufacturer's standard zinc-rich, corrosion-resistant primer, complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM and prepare surfaces according to applicable SSPC standard.
 - 1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
 - 2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
 - 3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.

2.3 FRAMING SYSTEMS

- A. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as required to support imposed loads.
 - 1. Construction: Thermally broken.
 - 2. Glazing System: Retained mechanically with gaskets on four sides.
 - 3. Glazing Plane: Center.
- B. Aluminum (Framing and Components)
 - 1. Extruded aluminum prime billet 6063-T5 or 6063-T6 alloy for primary components; 6063-T5, 6063-T6, or 6061-T6 for structural components; all meeting the requirements of ASTM B221.
 - 2. Aluminum sheet alloy 5005 H 32 (for anodic finish), meeting the requirements of ASTM B209 or alloy 3003 H 14 (for painted or unfinished sheet).
 - 3. Member Wall Thickness: Each framing member shall provide structural strength to meet specified performance requirements.
 - 4. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of storefront members are nominal and in compliance with AA Aluminum Standards and Data
- C. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

- D. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.
 - 1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
 - 2. Reinforce members as required to receive fastener threads.
 - 3. Use exposed fasteners with countersunk Phillips screw heads, fabricated from stainless steel.
- E. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts, complying with ASTM A 123/A 123M or ASTM A 153/A 153M.
- F. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.
- G. Framing System Gaskets and Sealants: Manufacturer's standard, recommended by manufacturer for joint type.
 - 1. Sealants used inside the weatherproofing system shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - 2. Sealants used inside the weatherproofing system shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.4 GLAZING SYSTEMS

- A. Glazing: As specified in Division 08 Section "Glazing."
- B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, molded or extruded, of profile and hardness required to maintain watertight seal.
- C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

2.5 ENTRANCE DOOR SYSTEMS

- A. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation.
 - 1. Door Construction: 1-3/4-inch (44.5-mm) overall thickness, with minimum 0.125-inch (3.2-mm-) thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
 - a. Thermal Construction: High-performance plastic connectors separate aluminum members exposed to the exterior from members exposed to the interior.
 - 2. Door Design:
 - a. Vertical stile; 5-7/8-inch nominal width
 - b. Top rail; 5-7/8-inch nominal width
 - c. Bottom Rail: 10" nominal height.

- d. Major portions of the door sections shall have .125" wall thickness. Glazing stop sections shall have .055" wall thickness
- 3. Glazing Stops and Gaskets: Square, snap-on, extruded-aluminum stops and preformed gaskets.
 - a. Provide nonremovable glazing stops on outside of door.
- B. Entrance Door Hardware: by aluminum door manufacturer.

2.6 ENTRANCE DOOR HARDWARE

- A. General: Provide entrance door hardware for each entrance door to comply with requirements in this Section.
 - 1. Entrance Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products complying with BHMA standard referenced.
 - 2. Sequence of Operation: Provide electrified door hardware function, sequence of operation, and interface with other building control systems indicated.
 - 3. Opening-Force Requirements:
 - a. Egress Doors: Not more than **15 lbf (67 N)** to release the latch and not more than **30 lbf (133 N)** to set the door in motion and not more than **15 lbf (67 N)** to open the door to its minimum required width.
- B. Opening-Force Requirements:
 - 1. Latches and Exit Devices: Not more than **15 lbf (67 N)** required to release latch.
- C. Continuous-Gear Hinges: Manufacturer's standard with stainless-steel bearings between knuckles, fabricated to full height of door and frame.
- D. Mortise Auxiliary Locks: BHMA A156.5, Grade 1.
- E. Manual Flush Bolts: BHMA A156.16, Grade 1.
- F. Automatic and Self-Latching Flush Bolts: BHMA A156.3, Grade 1.
- G. Panic Exit Devices: BHMA A156.3, Grade 1, listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
- H. Cylinders: As specified in Division 08 Section "Door Hardware."
 - 1. Keying: to be furnished by Owner.
- I. Strikes: Provide strike with black-plastic dust box for each latch or lock bolt; fabricated for aluminum framing.
- J. Operating Trim: BHMA A156.6.

- K. Closers: BHMA A156.4, Grade 1, with accessories required for a complete installation, sized as required by door size, exposure to weather, and anticipated frequency of use; adjustable to meet field conditions and requirements for opening force.
- L. Concealed Overhead Holders: BHMA A156.8, Grade 1.
- M. Surface-Mounted Holders: BHMA A156.16, Grade 1.
- N. Door Stops: BHMA A156.16, Grade 1, floor or wall mounted, as appropriate for door location indicated, with integral rubber bumper.
- O. Weather Stripping: Manufacturer's standard replaceable components.
- P. Weather Sweeps: Manufacturer's standard exterior-door bottom sweep with concealed fasteners on mounting strip.
- Q. Silencers: BHMA A156.16, Grade 1.
- R. Thresholds: BHMA A156.21, raised thresholds beveled with a slope of not more than 1:2, with maximum height of **1/2 inch (13 mm)**.

2.7 FABRICATION

- A. Form or extrude aluminum shapes before finishing.
- B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
- C. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:
 1. Profiles that are sharp, straight, and free of defects or deformations.
 2. Accurately fitted joints with ends coped or mitered.
 3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior.
 4. Physical and thermal isolation of glazing from framing members.
 5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
 6. Provisions for field replacement of glazing from exterior.
 7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.
- D. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.
- E. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.
- F. Entrance Doors: Reinforce doors as required for installing entrance door hardware.

- G. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.
- H. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.8 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General:
 - 1. Comply with manufacturer's written instructions.
 - 2. Do not install damaged components.
 - 3. Fit joints to produce hairline joints free of burrs and distortion.
 - 4. Rigidly secure nonmovement joints.
 - 5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration.
 - 6. Seal joints watertight unless otherwise indicated.
- B. Metal Protection:
 - 1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or applying sealant or tape, or by installing nonconductive spacers as recommended by manufacturer for this purpose.
 - 2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.
- D. Set continuous sill members and flashing in full sealant bed as specified in Division 07 Section "Joint Sealants" to produce weathertight installation.
- E. Install components plumb and true in alignment with established lines and grades, and without warp or rack.
- F. Install glazing as specified in Division 08 Section "Glazing."
- G. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.
 - 1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
 - 2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

END OF SECTION 084113

SECTION 085113 - ALUMINUM WINDOWS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. All exterior windows furnished and installed as shown on drawings, specified in this section and designated in AAMA 101/I.S.2.
2. All labor, materials, tools, equipment and services needed to furnish and install Architectural Performance Class windows.
3. Components furnished with installed windows.
4. Installation accessories furnished and installed.

1.02 SYSTEM PERFORMANCE REQUIREMENTS

A. Single Source Requirement

1. All products listed in 084113, 085113, 087100, and 088000 shall be sourced by the same manufacturer.

B. Design Wind Loads

1. The design wind pressure for the project will be per local building codes
2. All structural components, including meeting rails, mullions and anchors shall be designed accordingly, complying with deflection and stress requirements of Paragraph 1.02 B.

C. Air, Water and Structural Performance Requirements

1. When tested in accordance with cited test procedures, windows shall meet or exceed the following performance criteria, as well as those indicated in AAMA 101/I.S.2 for Architectural (AW) Performance Class windows, Performance Grade 80 (AW80) unless otherwise noted herein.
2. Air Test Performance Requirements
 - a. Air infiltration maximum 0.1 cfm per square foot at 6.24 psf pressure differential when tested in accordance with ASTM E283.
3. Water Test Performance Requirements
 - a. No uncontrolled water leakage at 12.00 psf static pressure differential, with water application rate of 5 gallons/hr/sq ft when tested in accordance with ASTM E331.
4. Structural Test Performance Requirements
 - a. Uniform Load Deflection Test
 1. No deflection of any unsupported span L of test unit (framing rails, muntins, mullions, etc.) in excess of L/175 at both a positive and negative load of 80 psf (design test pressure) when tested in accordance with ASTM E330.
 2. Structural reinforcing that is not standard on units being furnished is not allowed.
 - b. Uniform Load Structural Test
 1. Unit to be tested at 1.5 x design test pressure (120 psf), both positive and negative, acting normal to plane of wall in accordance with ASTM E330.
 2. No glass breakage; permanent damage to fasteners, hardware parts, or anchors; damage to make windows inoperable; or permanent deformation of any main frame or ventilator member in excess of 0.2% of its clear span.

D. Life Cycle Testing:

1. When tested in accordance with AAMA 910-93, there is to be no damage to fasteners, hardware parts, support arms, activating mechanisms or any other damage that would cause the window to be inoperable at the conclusion of testing. Air infiltration and water resistance tests shall meet the primary performance requirements specified.

E. Thermal Transmittance (U-Value):

1. The NFRC certified whole window U-Value based on NFRC 100 test sizes and calculated by using Windows 5.2 and Therm 5.2 software (or newer version), shall not exceed 0.44 BTU/hr/sf/degF for projected vents, 0.44 BTU/hr/sf/degF for casements, and 0.33 BTU/hr/sf/degF for fixed windows. All values submitted for comparison shall be calculated using manufacturers standard two pane insulated glass unit with center of glass U-value of .25 BTU/hr/sf/degF. Values calculated with triple pane units, removeable sash, oversized test samples, units with suspended films, nonstandard spacers, or nonstandard frame construction, shall not be allowed.

F. Condensation Resistance (CR)

1. Calculated by using Windows 5.2 and Therm 5.2 software (or newer version), shall not be less than 49 for projected vents, 49 for casements, and 53 for fixed windows. All values submitted for comparison shall be calculated using manufacturers standard two pane insulated glass unit with center of glass U-value of .25 BTU/hr/sf/degF and standard spacer and gas fill. Values calculated with triple pane units, removeable sash, oversized test samples, units with suspended films, nonstandard spacers, or nonstandard frame construction shall, not be allowed.

1.03 SUBMITTALS

A. General Requirements

- a. Provide all submittals in a timely manner to meet the required construction completion schedule.

B. Shop Drawings

- a. Shop drawings must be prepared wholly by the window manufacturer, or a qualified engineering services firm under the direction of the manufacturer. Shop drawings for pre-engineered configurations may be prepared by installers authorized per 1.04 QUALITY ASSURANCE.
- b. Provide design details along with bid proposals to define system aesthetic and functional characteristics.
- c. Provide three photocopied sets of shop drawings, including half size details of all necessary conditions.

C. Samples

- a. Finish: submit color samples for Architect's approval as requested

D. Test Reports and Calculations

- a. Submit certified independent laboratory test reports verifying compliance with all test requirements of 1.02 SYSTEM PERFORMANCE REQUIREMENTS as requested by Architect.

1.04 QUALITY ASSURANCE

A. Qualifications

1. Upon request, the window manufacturer will provide written confirmation that the installer is authorized to install window products to be used on this project.

1.05 DELIVERY, STORAGE AND HANDLING

A. Packing, Shipping, Handling and Unloading

1. Materials will be packed, loaded, shipped, unloaded, stored and protected in accordance with AAMA CW-10.

1.06 WARRANTY

A. Aluminum Window Warranty

1. Products: Submit a written warranty, executed by the window manufacturer, for a period of 2 years (10 years for insulated glass seal failure) from the date of manufacture, against defective materials or workmanship, including substantial non-compliance with applicable specification requirements and industry standards, which results in premature failure of the windows, finish, factory-glazed glass, or parts, outside of normal wear.
 - a. In the event that windows or components are found defective, manufacturer will repair or provide replacements without charge at manufacturer's option.
 - b. Warranty for all components must be direct from the manufacturer (non-pass through) and non-prorated for the entire term. Warranty must be assignable to the non-residential owner, and transferable to subsequent owners through its length.
2. Installation: Submit a written warranty, executed by the window installer, for a period of 2 years from the date of substantial completion, against defective materials or workmanship, including substantial non-compliance with applicable specification requirements, which result in premature failure.
 - a. In the event that installation of windows or components is found to be defective, installer will repair or provide replacements without charge at the installer's option.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer

1. Drawings and specifications are based on:
 - a. Quaker C600 DS Fixed Window. Basis of design is Quaker Window Systems, Inc.
 - b. Manko Window Systems, Inc. 4527i Fixed window series
 - c. EFCO 4X45

2.02 MATERIALS

A. Aluminum Members

1. Extruded aluminum prime billet 6063-T5 or 6063-T6 alloy for primary components; 6063-T5, 6063-T6, or 6061-T6 for structural components; all meeting the requirements of ASTM B221.
2. Aluminum sheet alloy 5005 H 32 (for anodic finish), meeting the requirements of ASTM B209 or alloy 3003 H 14 (for painted or unfinished sheet).

2.03 MANUFACTURED UNITS

A. Materials

1. Principal window frame members will be a minimum 0.094" in thickness at all structural areas, hardware mounting webs, and section flanges.
2. Extruded or formed trim components will be a minimum 0.062" in thickness.

B. Fabrication

1. Frame depth 4.5" minimum.
2. Sash depth 2 2/8" minimum.
3. Sash ventilator sections must be tubular.

2.04 COMPONENTS

A. All steel components including attachment fasteners to be 300 series stainless steel except as noted.

B. Extruded aluminum components 6063-T5 or 6063-T6.

C. Locking handles, cases and strikes to be die cast or stainless steel.

D. Thermoplastic or thermo-set plastic caps, housings and other components to be injection-molded nylon, extruded PVC, or other suitable compound.

E. Hardware:

1. Fixed -- No Hardware Required

F. Sealants

1. All sealants shall comply with applicable provisions of AAMA 800 and/or Federal Specifications FS-TT-001 and 002 Series.
2. Frame joinery sealants shall be suitable for application specified and as tested and approved by window manufacturer.

G. Glass

1. Provide in accordance with Section 088000.
2. Sealed insulated glass shall meet ASTM E 2190.

H. Glazing

1. Provide in general accordance with Section 088000.
2. Glazing method shall be in general accordance with the FGMA Glazing Manual for specified glass type, or as approved by the glass fabricator.

I. Glazing Materials

1. Setting Blocks/Edge Blocking: Provide in sizes and locations recommended by FGMA Glazing Manual.
2. Back-bedding tapes, expanded cellular glazing tapes, toe beads, heel beads and cap beads shall meet the requirements of applicable specifications cited in AAMA 800.
3. Glazing gaskets shall be non-shrinking, weather-resistant, and compatible with all materials in contact.
4. Structural silicone sealant where used shall meet the requirements of ASTM C 1184.
5. Spacer tape in continuous contact with structural silicone shall be tested for compatibility and approved by the sealant manufacturer for the intended application.

Gaskets in continuous contact with structural silicone shall be extruded silicone or compatible material.

J. Steel Components

1. Provide steel reinforcements as necessary to meet the system performance requirements of 1.02.
2. Concealed steel anchors and reinforcing shall be factory painted after fabrication with rust-inhibitive primer complying with Federal Specification TT-P-645.

K. Thermal Break Construction:

1. Structural Thermal Barrier
 - a. Structural thermal barriers shall consist of polyimide nylon 6.6 struts reinforced with glass fibers oriented in all three (3) axis.
 - b. Frame and sash members must include a thermal break applied in the manufacturer's facility, using a low conductance consisting of twin polyimide struts not less than 24mm in length.

L. Weather Stripping:

1. Dual durometer PVC, neoprene, EPDM or other suitable material as tested and approved by the window manufacturer.
2. Bulb type at exterior vent members.
3. Securely stake and join at corners. Provide drainage to exterior as necessary.
4. Weather-stripping shall provide an effective pressure-equalization seal at the interior face of the sash ventilator.

M. Panning

1. Provide extruded aluminum panning to receive replacement windows as shown on architectural drawings.
2. Finish to match window frames

N. Receptors / Sill Starter

1. Provide extruded aluminum receptors to receive windows, as shown on architectural drawings.
2. Finish to match window frames.

2.05 FABRICATION

A. General:

1. Finish, fabricate and shop assemble frame and sash members into complete windows under the responsibility of one manufacturer.
2. No bolts, screws or fastenings to bridge thermal barrier or impair independent frame movement.
3. Fabricate to allow for thermal movement of materials when subjected to a temperature differential from -30 degrees F to +180 degrees F.

B. Frames:

1. Cope and mechanically fasten each corner, or miter all corners and mechanically stake over a solid extruded aluminum corner key leaving only hairline joinery, then seal weather tight.

C. Main Sash Ventilator

1. Miter all corners and mechanically stake over a solid extruded aluminum corner key, leaving only hairline joinery, then seal weather tight.

2.06 FINISHES

A. Finish of Aluminum Components

1. Finish of all exposed areas of aluminum windows and components shall be done in accordance with the appropriate AAMA Voluntary Guide Specification shown

Designation	Description	Standard	Color
AAM12C21A41	Clear - Class I	AAMA 611	Clear

PART 3 EXECUTION

3.1 INSTALLATION

- A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing windows, hardware, accessories, and other components.
- B. Install windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.
- C. Set sill members in bed of sealant or with gaskets, as indicated, for weathertight construction.
- D. Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.
- E. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
- F. Adjust operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate hardware and moving parts.
- G. Clean aluminum surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
- H. Clean factory-glazed glass immediately after installing windows. Comply with manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.
- I. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.
- J. Remove and replace noncomplying aluminum window and retest as specified above.

END OF SECTION 085113

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes:

- 1. Mechanical door hardware for the following:
 - a. Swinging doors.
- 2. Cylinders for door hardware specified in other Sections.
- 3. Electrified door hardware.

- B. Related Sections:

- 1. Division 08 Section "Aluminum framed entrances and storefronts" for astragals provided as part of labeled fire-rated assemblies and for door silencers provided as part of hollow-metal frames.

- C. Single Source Requirements

- 1. All products listed in 084113, 085113, 087100, and 088000 shall be sourced by the same manufacturer. i.e. storefront and door provider shall also provide and install all associated door hardware.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.

- B. Samples for Verification: For exposed door hardware of each type required, in each finish specified, prepared on Samples of size indicated below. Tag Samples with full description for coordination with the door hardware schedule. Submit Samples before, or concurrent with, submission of door hardware schedule.

- 1. Sample Size: Full-size units or minimum 2-by-4-inch Samples for sheet and 4-inch long Samples for other products.
 - a. Full-size Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may,

after final check of operation, be incorporated into the Work, within limitations of keying requirements.

C. Other Action Submittals:

1. Door Hardware Schedule: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate final door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - a. Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule.
 - b. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule." Double space entries, and number and date each page.
 - c. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - d. Content: Include the following information:
 - 1) Identification number, location, hand, fire rating, size, and material of each door and frame.
 - 2) Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
 - 3) Complete designations, including name and manufacturer, type, style, function, size, quantity, function, and finish of each door hardware product.
 - 4) Description of electrified door hardware sequences of operation and interfaces with other building control systems.
 - 5) Fastenings and other pertinent information.
 - 6) Explanation of abbreviations, symbols, and codes contained in schedule.
 - 7) Mounting locations for door hardware.
 - 8) List of related door devices specified in other Sections for each door and frame.
2. Keying Schedule: Prepared by or under the supervision of Installer, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations that are coordinated with the Contract Documents.

D. Qualification Data: For Architectural Hardware Consultant (AHC).

E. Product Certificates: For electrified door hardware, from the manufacturer.

1. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.

F. Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for door hardware on doors located in accessible routes.

- G. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.
- H. Warranty: Special warranty specified in this Section.
- I. Keys: Deliver with identifying tags to MVCAA Sedalia Early Childhood / FRC by security shipment direct from hardware supplier.
- J. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in MVCAA Sedalia Early Childhood / FRC name and registered with manufacturer.
- K. Maintenance Materials and Tools: Furnish the following for MVCAA Sedalia Early Childhood / FRC use in maintenance of project.
- L. See Section 01600 - Product Requirements, for additional provisions.
- M. Tools: One set of all special wrenches or tools applicable to each different or special hardware component, whether supplied by the hardware component manufacturer or not.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and an Architectural Hardware Consultant who is available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
 - 1. Warehousing Facilities: In Project's vicinity.
 - 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
 - 3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
- B. Architectural Hardware Consultant Qualifications: A person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is currently certified by DHI as follows:
 - 1. For door hardware, an Architectural Hardware Consultant (AHC).
- C. Source Limitations: Obtain each type of door hardware from a single manufacturer.
 - 1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated. Manufacturers that perform electrical modifications and that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.
- D. Means of Egress Doors: Latches do not require more than 15 lbf to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.
- E. Accessibility Requirements: For door hardware on doors in an accessible route, comply with the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines.

1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf .
 2. Comply with the following maximum opening-force requirements:
 - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf applied perpendicular to door.
 3. Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch high.
 4. Adjust door closer sweep periods so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the leading edge of the door.
- F. Keying Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." In addition to Owner, Contractor, and Architect, conference participants shall also include Installer's Architectural Hardware Consultant. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including, but not limited to, the following:
1. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
 2. Preliminary key system schematic diagram.
 3. Requirements for key control system.
 4. Requirements for access control.
 5. Address for delivery of keys.
- G. Preinstallation Conference: Conduct conference at Project site.
1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 2. Inspect and discuss preparatory work performed by other trades.
 3. Inspect and discuss electrical roughing-in for electrified door hardware.
 4. Review sequence of operation for each type of electrified door hardware.
 5. Review required testing, inspecting, and certifying procedures.
- 1.5 DELIVERY, STORAGE, AND HANDLING
- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
 - B. Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
 - C. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.
 - D. Deliver keys to Owner by registered mail or overnight package service.

1.6 COORDINATION

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.
- B. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including excessive deflection, cracking, or breakage.
 - b. Faulty operation of doors and door hardware.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
 - 2. Warranty Period: (1) year from date of Substantial Completion, unless otherwise indicated.
 - a. Locks: 7 years from date of Substantial Completion.
 - b. Exit Devices: 10 years from date of Substantial Completion.
 - c. Manual Closers: 25 years from date of Substantial Completion.

1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. Provide door hardware for each door as scheduled in Part 3 "Door Hardware Schedule" Article to comply with requirements in this Section.
 - 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products.

2. Sequence of Operation: Provide electrified door hardware function, sequence of operation, and interface with other building control systems indicated.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Schedule" Article. Products are identified by using door hardware designations, as follows:
1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are abbreviated in Part 3 "Door Hardware Schedule" Article.
 2. References to BHMA Designations: Provide products complying with these designations and requirements for description, quality, and function.

2.2 HINGES

- A. Hinges: BHMA A156.1. Provide template-produced hinges for hinges installed on aluminum storefront to aluminum doors.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
 - a. Bommer Industries, Inc.
 - b. Lawrence Hardware Inc.
 - c. McKinney Products Company; an ASSA ABLOY Group company.

2.3 MECHANICAL LOCKS AND LATCHES

- A. Lock Functions: As indicated in door hardware schedule.
- B. Lock Backset: 2-3/4 inches (70 mm), unless otherwise indicated.
- C. Lock Trim:
1. Description: LCC
 2. Levers: Cast.
- D. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.
- E. Cylindrical Locks: BHMA A156.2; Operational Grade 1; stamped steel case with steel or brass parts; Series 1000.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
3.
 - a. DormaKaba
 - b. Hager Hardware
 - c. Sargent; An ASSA-Abloy Co.
 - d. Schlage; an Ingersoll Rand Co.

2.4 EXIT DEVICES AND AUXILIARY ITEMS

A. Exit Devices and Auxiliary Items: BHMA A156.3.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
 - a. DormaKaba
 - b. Hager Hardware
 - c. SARGENT; An ASSA ABLOY Group company.
 - d. Von Duprin; an Ingersoll Rand Company

2.5 LOCK CYLINDERS

A. Standard Lock Cylinders: BHMA A156.5, Grade 1

B. Cylinders: Manufacturer's standard tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:

1. Number of Pins: Six.
2. Mortise Type: Threaded cylinders with rings and straight- or clover-type cam.
3. Bored-Lock Type: Cylinders with tailpieces to suit locks.

C. Manufacturer: Same manufacturer as for locks and latches.

D. Manufacturers:

1. DormaKaba
2. Hager Hardware
3. SARGENT Manufacturing Company; an ASSA ABLOY Group company
4. Schlage; an Ingersoll Rand Company

2.6 KEYING

- A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference.
 - 1. Grand Master Key System: Change keys, a master key, and a grand master key operate cylinders.
- B. Keys: Nickel silver.
 - 1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:
 - a. Notation: Information to be furnished by Owner.
 - 2. Quantity: In addition to one extra key blank for each lock, provide the following:
 - a. Cylinder Change Keys: Three.
 - b. Master Keys: Five.
 - c. Grand Master Keys: Five

2.7 KEY CONTROL SYSTEM

- A. Key Control Cabinet: BHMA A156.5; metal cabinet with baked-enamel finish; containing key-holding hooks, labels, 2 sets of key tags with self-locking key holders, key-gathering envelopes, and temporary and permanent markers; with key capacity of 150 percent of the number of locks.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
 - a. Lund Equipment Co., Inc.
 - b. MMF Industries.
 - 3. Wall-Mounted Cabinet: Cabinet with hinged-panel door equipped with key-holding panels and pin-tumbler cylinder door lock.
- B. Cross-Index System: Multiple-index system for recording key information. Include three receipt forms for each key-holding hook. Set up by Installer.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
 - a. Lund Equipment Co., Inc.
 - b. MMF Industries.

2.8 SURFACE CLOSERS

- A. Surface Closers: BHMA A156.4; rack-and-pinion & roller-and-cam hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
 - a. DormaKaba
 - b. Hager Hardware
 - c. LCN; an Ingersol Rand Company
 - d. SARGENT Manufacturing Company; an ASSA ABLOY Group company.

2.9 DOOR GASKETING

- A. Door Gasketing: BHMA A156.22; air leakage not to exceed 0.50 cfm per foot (0.000774 cu. m/s per m) of crack length for gasketing other than for smoke control, as tested according to ASTM E 283; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
 - a. KN Crowder
 - b. Sealeze; a unit of Jason Incorporated.
 - c. Zero International.

2.10 THRESHOLDS

- A. Thresholds: BHMA A156.21; fabricated to full width of opening indicated.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
 - a. KN Crowder
 - b. Sealeze; a unit of Jason Incorporated.
 - c. Zero International.

2.11 METAL PROTECTIVE TRIM UNITS

- A. Metal Protective Trim Units: BHMA A156.6; fabricated from 0.050-inch- (1.3-mm-) thick stainless steel; with manufacturer's standard machine or self-tapping screw fasteners.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on schedule or comparable product by one of the following:
 - a. Don-Jo Mfg., Inc.
 - b. Hiawatha, Inc.
 - c. Trimco.

2.12 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Architect.
1. Manufacturer's identification is permitted on rim of lock cylinders only.
- B. Base Metals: Produce door hardware units of base metal indicated, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18.
- C. Fasteners: Provide door hardware manufactured to comply with published templates prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.
1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
 2. Fire-Rated Applications:
 - a. Wood or Machine Screws: For the following:
 - 1) Hinges mortised to doors or frames[; use threaded-to-the-head wood screws for wood doors and frames].
 - 2) Strike plates to frames.
 - 3) Closers to doors and frames.
 - b. Steel Through Bolts: For the following unless door blocking is provided:
 - 1) Surface hinges to doors.

- 2) Closers to doors and frames.
 - 3) Surface-mounted exit devices.
3. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
 4. Fasteners for Wood Doors: Comply with requirements in DHI WDHS.2, "Recommended Fasteners for Wood Doors."
 5. Gasketing Fasteners: Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

2.13 FINISHES

- A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
- B. Wood Doors: Comply with DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- D. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches (750 mm) of door height greater than 90 inches (2286 mm).
- E. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- F. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- G. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.
- H. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- I. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- J. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.

- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

3.7 DOOR HARDWARE SCHEDULE

- A. Basis of design products. Identical items from above listed manufacturers may be substituted. GC shall provide appropriate hardware that coordinates with storefront system and door. GC shall verify compatibility with owners' security system contractor. All hardware shall be provided and installed by storefront and aluminum door provider. GC shall coordinate with owner in regards to security system hook up.
 1. Continuous Hinge: ABH, A111HD Clear anodized.
 2. Permanent Astragal: RM 3701E1. Clear anodized, strikes on both sides of astragal.
 3. Rim panic w/ electric strike: First Choice 3790 Rim Panic, Clear finish
 4. Electric strike: ASSA ABLOY, HES-9400 Electric Strike. 630 finish.
 5. Closer: Norton 1601 Red / Pa-BC Adj. 1-6 closer
 6. Exterior Lever trim: First Choice Series L3 Lever Trim, Exterior right, controlled access function w/ Best 7 pin core hardware compatible mortise cylinder, clear finish. Exterior left, inactive. Core provided by owner, GC installed.

END OF SECTION

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SECTION 088000 - GLASS AND GLAZING

PART 1 - GENERAL

1.1 Summary

- A. This section includes the following types of glazing:
 - 1. Tinted insulated tempered glazing, and translucent tempered insulated glazing, and insulated panels.

1.2 Definitions

- A. Single Source Requirement
 - 1. All products listed in 084113, 085113, 087100, and 088000 shall be sourced by the same manufacturer
- B. Manufacturer used in this section to refer to a firm that produces primary glass or fabricated glass as defined in the reference glazing standard.
- C. Deteriorations of Coated Glass: Defects developed from normal use that is attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning coated glass contrary to manufacturer's directions. Defects include peeling, cracking, and other indications of deterioration in metallic coating.
- D. Deterioration of Laminated Glass: Defects developed from normal use that is attributed to the manufacturing process and not to glass breakage and practices for maintaining and cleaning laminated glass contrary to manufacturer's directions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated glass standard.
- E. Deterioration of Insulating Glass: Failure of the hermetic seal under normal use due to causes other than glass breakage and improper practices for maintaining, and cleaning insulating glass. Evidence of failure is the obstruction of vision by dust, moisture, or film on the interior surfaces of glass. Improper practices for maintaining and cleaning glass do not comply with the manufacturer's directions.

1.3 System Performance Requirements

- A. Provide glazing systems that are produced, fabricated and installed to withstand normal thermal movement, wind loading, and impact loading (where applicable), without failure including loss or glass breakage attributable to the following: defective manufacture, fabrication and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; and other defects in construction.
- B. Glass Design: Glass thicknesses indicated on drawings are for detailing only. Conform glass thickness by analyzing project loads and in service conditions. Provide glass lites

for the various size openings in the thicknesses and strengths (annealed or heat treated) to meet or exceed the following criteria:

1. Minimum glass thickness, nominally, of lites in exterior walls is 6.0 mm (0.23 inch).
 2. Tinted and heat absorbing glass thicknesses for each tint indicated are the same throughout project.
 3. Minimum glass thicknesses of lites, whether composed of annealed or heat treated glass, are selected so the worst case probability of failure does not exceed the following:
 - a. 8 lites per 100 for lites set vertically and not over 15 degrees off vertical and under wind action. Determine minimum thickness of monolithic annealed glass according to ASTM E 1300. For other than monolithic annealed glass, determine thickness per glass manufacturer's standard method of analysis including applying adjustment factors to ASTM E 1300 based on type of glass.
 - b. 1 lite per 1000 for lites set over 15 degrees off vertical and under action of wind or snow.
- C. Normal thermal movement results from the following maximum change (range) in ambient and surface temperature acting on glass framing members and glazing components. Base engineering calculation on materials' actual surface temperatures due to both solar heat gain and night time sky heat loss.
1. Temperature change (Range): 120 deg F (67 deg C), ambient 180 deg F (100 deg C), material surfaces.

1.4 Submittals

- A. Submit in accordance with Division 1 requirements.
- B. Product data for each glass product and glazing material indicated.
- C. Samples for verification purposes of 12 inch square samples of each type of glass indicated except for clear monolithic glass products, and 12 inch long samples of each color required (except black) for each type of sealant or gasket exposed to view. Install sealant or gasket sample between two strips of material representative in color of the adjoining framing system.
- D. Product certificates signed by glazing materials manufacturers certifying that their products comply with specified requirements.
 1. Separate certifications are not required for glazing materials bearing manufacturer's permanent labels designating type and thickness of glass, provided labels represent a quality control program of a recognized certification

agency or independent testing agency acceptable to authorities having jurisdiction.

- E. Compatibility and adhesion test reports from sealant manufacturer indicating that glazing materials were tested for compatibility and adhesion with glazing sealants. Include sealant manufacturer's interpretation of test results relative to sealant performance and recommendations for primers and substrate preparation needed for adhesion.
- F. Compatibility test report from manufacturer of insulating glass edge sealant indicating that glass edge sealants were tested for compatibility with other glazing materials including sealants, glazing type, gaskets, setting blocks, and edge blocks.
- G. Product test reports for each type of glazing sealant and gasket indicated, evidencing compliance with requirement specified.
- H. Maintenance data for glass and other glazing indicated, evidencing compliance with requirements specified.
- I. Submit warranties as specified herein.

1.5 Quality Assurance

- A. Comply with applicable codes and regulations and with the Consumer Product Safety Commission CPSC 16 CFR 1201 and with applicable recommendations of Flat Glass Marketing Association (FGMA) "Glazing Manual".
- B. Provide labels showing glass manufacturer's identity, type of glass, thickness, and quality. Labels shall remain on glass until it has been set and approved by Architect.
- C. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, except where more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. FGMA Publications: "FGMA Glazing Manual"
 - 2. AAMA Publications: AAMA TIR-A7 "Sloped Glazing Guidelines" and "Glass Design for Sloped Glazing".
 - 3. LSGA Publications: "LSGA Design Guide"
 - 4. SIGMA Publications: TM-3000 "Vertical Glazing Guidelines" and TB-3001 "Sloped Glazing Guidelines".
- D. Safety Glass: Products complying with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for Category II materials.
 - 1. Subject to compliance with requirements, provide safety glass permanently marked with certification label of Safety Glazing Certifications Council (SGCC) or other certification agency acceptable to authorities having jurisdiction.

- E. Insulating Glass Certification Program: Provide insulating glass units permanently marked either on spacers or at least one component lite of units with appropriate certifications label of inspecting and testing agency indicated below:
 - 1. Insulating Glass Certification Council (IGCC).
 - 2. Associated Laboratories, Inc. (ALI).
 - 3. National Certified Testing Laboratories (NCTL).
- F. Glazier Qualifications: Engage an experienced glazier who has completed glazing similar in material, design and extent to that indicated for Project with a record of successful in service performance.
- G. Single Source Responsibility for Glass: Obtain glass from one source for each product indicated below:
 - 1. Primary glass of each (ASTM C 1036) type and class indicated.
 - 2. Heat treated glass of each (ASTM C 1048) condition indicated.
 - 3. Laminated glass of each (ASTM C 1172) kind indicated.
 - 4. Insulating glass of each construction indicated.
- H. Single Source Responsibility for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.

1.6 Delivery, Storage, and Handling

- A. Deliver glass to site in suitable containers that will protect glass from the weather and from breakage. Carefully store material as directed in a safe place where breakage can be reduced to a minimum. Deliver sufficient glass to allow for normal breakage. Glazing compounds shall arrive at the project site in labeled containers which have not been opened.
- B. Protect glazing materials to comply with manufacturer's directions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
 - 1. Where insulating glass units will be exposed to substantial altitude changes, comply with insulation glass fabricator's recommendations for venting and sealing to avoid hermetic seal ruptures.

1.7 Project Conditions

- A. Environmental Conditions: Do not proceed with glazing when ambient and substrate temperature conditions are outside the limits permitted by glazing materials manufactures or when glazing channel substrates are wet from rain, frost, condensation, or other causes.
 - 1. Install liquid sealants at ambient and substrate temperatures above 40 deg F (4.4 deg C).

1.8 Warranty

- A. Manufacturer's Warranty on Coated Glass Products: Submit written warranty signed by coated glass manufacturer agreeing to furnish replacement for those coated glass units that deteriorate as defined in "Definitions" article, f.o.b. point of manufacture, freight allowed Project site, within specified warranty period indicated below. Warranty covers only deterioration due to normal conditions of use and not to handling, installing, and cleaning practices contrary to glass manufacturer's published instructions.
 - 1. Warranty Period: Manufacturer's standard but not less than 5 years after date of Substantial Completion.

- B. Manufacturer's Warranty on Laminated Glass: Submit written warranty signed by insulating glass manufacturer agreeing to furnish replacements for those laminated glass units that deteriorate as defined in the "Definitions" article, f.o.b. point of manufacture, freight allowed Project site, within specified warranty period indicated below. Warranty covers only deterioration due to normal conditions of use and not to handling, installing, and cleaning practices contrary to glass manufacturer's published instructions.
 - 1. Warranty Period: Manufacturer's standard but not less than 5 years after date of Substantial Completion.

- C. Manufacturer's Warranty on Insulating Glass: Submit written warranty signed by manufacturer of insulating glass agreeing to furnish replacements for insulating glass units that deteriorate as defined in "Definitions" article, f.o.b. point of manufacture, freight allowed Project site, within specified warranty period indicated below.

Warranty covers only deterioration due to normal conditions of use and not to handling, installing, protecting, and maintaining practices contrary to glass manufacturer's published instructions.

 - 1. Warranty Period: Manufacturer's standard but not less than 10 years from Date of Substantial Completion.

PART 2- PRODUCTS

2.1 Manufacturers

- A. Primary Glass: Provide products from one of the following:
 - 1. PPG
 - 2. Guardian
 - 3. Cardinal Industries. Inc.
 - 4. Pilkington/LOF
 - 5. or approved alternate.

- B. Architectural Glass Fabricators: Provide products from one of the following:
 - 1. Insulite
 - 2. Manko
 - 3. Interpane/Spectrum Glass Products

4. Glasstemp
5. Arch Amarlite
6. Guardian
7. Quaker
8. or approved alternate

2.2 Glass Types and Usage (Tinted glazing and translucent glazing basis of design products are approved by the owner and listed for reference only. Alternate manufactures products that meet the performance requirements will be accepted)

- A. Tinted Glazing, Basis of design product. Alternates shall meet all listed requirements
 - a. Glass for exterior aluminum doors, storefront, and windows: shall be one inch insulated glass consisting of tempered OB Lite: Midnight Gray, (North America), 1/4", wide hermetically sealed air space, 1/2", and tempered IB lite: Clear (North America) w/ Manko MC37 HPT Low-E coating on the #3 surface.
 - b. Transmittance:
 - i. Visible, 7%
 - ii. Solar, 3%
 - c. Reflectance
 - i. Pv out 5%
 - ii. Pv in 8%
 - iii. Solar 31%
 - d. U-Value
 - i. Winter night .29
 - ii. Summer Day .27
 - e. R-Value
 - i. 3.43
 - f. Solar Heat Gain Coefficient
 - i. .13
 - g. Shading Coefficient
 - i. .14
- B. Translucent glazing, Basis of Design Product, Alternates shall meet all listed requirements.
 - a. Glass for aluminum windows: shall be one inch insulated glass consisting of tempered OB Lite: Clear (North America) sandblasted on surface #2, 1/4", wide hermetically sealed air space, 1/2", and tempered IB lite: Clear (North America) w/ Manko MC37 HPT Low-E coating on the #3 surface.
 - b. Transmittance:
 - i. Visible, 53%
 - ii. Solar, 26%
 - c. Reflectance
 - i. Pv out 16%
 - ii. Pv in 13%
 - iii. Solar 33%
 - d. U-Value
 - i. Winter night .29
 - ii. Summer Day .27
 - e. Solar Heat Gain Coefficient
 - i. .39

- f. Shading Coefficient
 - i. .45

2.3 Primary Float Glass Products

- A. Float Glass: ASTM C 1036, Type I (transparent glass, flat), Class as indicated below, and Quality q3 (glazing select).
 - 1. Class 1 (clear) unless otherwise indicated.

2.4 Heat Treated Float Glass

- A. Fabrication Process: By horizontal (roller heath) process with roll wave distortion parallel to bottom edge of glass as installed, unless otherwise indicated.
- B. Uncoated, Clear, Heat Treated Float Glass: ASTM C 1048, Condition A (uncoated surfaces), Type 1 (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), kind as indicated below:
 - 1. Kind FT (fully tempered) at all locations.

2.5 Coated Monolithic Glass Products

- A. General: Performance characteristics designed for coated monolithic glass products are nominal values based on manufacturer's published test data for glass products 6.0 mm thick (0.23 inch thick), unless otherwise indicated. Comply with requirements specified including those for primary and heat treated float glass products as they relate to properties of glass to which coatings are applied.
 - 1. U values are expressed as Btu/hour x sq. ft. x deg F.
 - 2. Provide heat treated coated float glass of kind indicated or, if not otherwise indicated, Kind HS (heat strengthened) where recommended by manufacturer to comply with system performance requirements specified and Kind FT (full tempered) where coated safety glass is designated or required.
 - 3. Provide Kind HS (heat strengthened) coated float glass except provide Kin FT (fully tempered) products where coated safety glass is designated or required.

2.6 Insulating Glass Products

- A. Sealed Insulating Glass Units: Pre-assembled units consisting of organically sealed lites of glass separated by dehydrated air spaces complying with ASTM E 774 and with other requirements indicated.
 - 1. For properties of individual glass lites making up units, refer to requirements specified elsewhere in this Section applicable to types, classes, kinds, and conditions of glass products comprising lites of insulting glass units.

2. Provide heat treated, coated float glass Kind FT (fully tempered) where safety glass is designated or required.
3. Performance characteristics designated for coated insulating glass are nominal values based on manufacturer's published test data for units with lites 6.0 mm (0.23 inch) thick and nominal ½ inch dehydrated space between lites, unless otherwise indicated.
4. U values are expressed as Btu/hour x sq. ft. x deg F.

2.7 Elastomeric Glazing Sealants

A. General:

1. Provide materials as recommended by the manufacturer for the required application and condition of installation in each case. Provide only compounds which are proven to be fully compatible with surfaces contacted.

- ### B. Silicone Rubber Glazing Sealant:
- Shall be silicon rubber, one part elastomeric sealant complying with FS TT-S-001543, Class A. Provide acid type for nonporous channel surfaces and provide nonacid medium modulus type for porous channel surfaces.

2.8 Glazing Gaskets

- ### A. Lock Strip Gaskets:
- Neoprene extrusions in size and shape indicated, fabricated into frames with molded corner units and zipper lock strips, complying with ASTM C 542, black.

- ### B. Dense Compression Gaskets:
- Molded or extruded gaskets of material indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:

1. Neoprene, ASTM C 864
2. EPDM, ASTM C 864
3. Silicone, ASTM C 1115
4. Thermoplastic polyolefin rubber, ASTM C 1115
5. Any material indicated above

- ### C. Manufactures:
- Subject to compliance with requirements, provide products by one of the following companies:

1. Lock Strip Gaskets:
 - a. Stanlock Div., Griffith Rubber Mills
2. Preformed Gaskets:
 - a. Advanced Elastomer Systems, L.P.
 - b. Schnee-Morehead, Inc.
 - c. Tremco, Inc.

2.9 Miscellaneous Glazing Materials

- A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirement of manufacturers of glass and other glazing materials involved for glazing application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers, and Sealers: Type recommended by sealant or gasket manufacturer.
- C. Setting Blocks: Elastomeric material with a Shore A durometer hardness of 85 plus or minus 5.
- D. Spacers: Elastomeric blocks or continuous extrusions with a Shore A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- F. Compressible Filler Rod: Shall be closed cell or waterproof jacketed rodstock of synthetic rubber or plastic foam with proven compatibility with sealants used. Rod shall be flexible and resilient with 5-10 PSI compression strength for 25 percent deflection.

2.10 Fabrication of Glass

- A. Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with recommendations of product manufacturer and referenced glazing standard as required to comply with system performance requirements.
- B. Clean cut or flat grind vertical edges of butt-glazed monolithic lites in a manner that produces square edges with slight kerfs at junctions with indoor and outdoor faces.

2.11 Insulated fill panel

- A. Warranty
 - a. Panel lamination warranty: 5 years
 - b. Finish warranty: 20 year anodized warranty
- B. Manufacturers
 - a. Basis of Design, Nudo Endurex 500
 - b. Mapes Industries
 - c. Thermolite, Laminators, Inc.
 - d. Or equal
- C. Panel composition
 - a. Face skin .060 anodized aluminum to match windows
 - b. Stabilizer: 1/8" composite
 - c. Foam Thickness, Polyisocyanurate foam

PART 3- EXECUTION

3.1 Standards and Performance

- A. Watertight and airtight installation of each piece of glass required, except as otherwise shown. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating sash and doors) without failure, including loss or breakage of glass, failure of sealants or gaskets to remain watertight and air tight, deterioration of glazing materials and other defects in the work.
- B. Protect glass from edge damage at all times during handling, installation and operation of the building.
- C. Glazing Channel dimensions as shown are intended to provide for necessary minimum bite on the glass, minimum edge clearance, and adequate sealant thicknesses with reasonable tolerances. The glazier is responsible for correct glass size for each opening within the tolerance and necessary dimension established.
- D. Comply with combined recommendations of glass manufacturer and manufacturer of sealants and other materials used in glazing and their technical representatives except where more stringent requirements are shown or specified.
- E. Comply with "Glazing Manual" by Flat Glass Marketing Association and the manufactures of the glass and glazing materials except as shown and specified otherwise.
- F. Inspect each piece of glass immediately before installation and eliminate those which have observable edge damage or face imperfections.
- G. Unify appearance of each series of lights by setting each piece to match others as nearly as possible. Inspect each piece and set with pattern, draw, and blow oriented in the same direction as other pieces.

3.2 Examination

- A. Examine glass framing, with glazier present, for compliance with the following:
 - 1. Manufacturing and installation tolerances, including those for size, squareness, offsets at corners.
 - 2. Presence and functioning of weep system.
 - 3. Minimum required face or edge clearances.
 - 4. Effective sealing between joints of glass framing members.
- B. Do not proceed with glazing until unsatisfactory conditions have been corrected.

3.3 Preparation

- A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings that are not firmly bonded to substrates.

3.4 Glazing, General

- A. Comply with combined recommendations of manufacturers of glass, sealants, gaskets, and other glazing materials, except where more stringent requirements are indicated, including those in referenced glazing publications.
- B. Glazing channel dimensions as indicated on drawings provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses with reasonable tolerances. Adjust as required by Project conditions during installation.
- C. Protect glass from edge damage during handling and installation as follows:
 - 1. Use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar. Rotate glass lites with flares or bevels on bottom horizontal edges so edges are located at top of opening, unless otherwise indicated by manufacturer's label.
 - 2. Remove damaged glass from Project site and legally dispose of off site. Damaged glass is glass with edge damage or other imperfections that, when installed, weaken glass and impair performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant substrate testing.
- E. Install elastomeric setting blocks in sill rabbets, sized and located to comply with referenced glazing standard, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- G. Provide spacers for glass sizes larger than 50 united inches (length plus height) as follows:
 - 1. Locate spacers inside, outside, and directly opposite each other. Install correct size and spacing to preserve required face clearances, except where gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and comply with system performance requirements.
 - 2. Provide 1/8 inch minimum bite of spaces on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
- H. Provide edge blocking to comply with requirements of referenced glazing publications, unless otherwise required by glass manufacturer.
- I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
- J. Where wedge shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

- K. Square cut wedge shaped gaskets at corners and install gaskets in manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.5 Gasket Glazing (Dry)

- A. Fabricate compression gaskets in lengths recommended by gasket manufacturer to fit openings exactly, with stretch allowance during installation.
- B. Secure compression gaskets in place with joints located at corners to compress gaskets producing a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- C. Install gaskets so they protrude past face of glazing stops.

3.6 Gasket Glazing (Wet)

- A. Install continuous spacers between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel weep systems until sealants cure. Secure spacers in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
- B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
- C. Tool exposed surfaces of sealant to provide a substantial wash away from glass. Install pressurized gaskets to protrude slightly out of channel to eliminate dirt and moisture pockets.

3.7 Lock Strip Gasket Glazing

- A. Comply with ASTM C 716 and gasket manufacturer's printed recommendations. Provide supplementary wet seal and weep system unless otherwise indicated.

3.8 Protection and Cleaning

- A. Remove nonpermanent labels and clean surfaces. Protection from this point shall be the responsibility of the General Contractor.
- B. Protect glass from contact with contaminating substances resulting from construction operations including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove them immediately as recommended by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for build up of dirt, scum, alkali deposits, or stains, and remove as recommended by glass manufacturer.

- D. Remove and replace glass that is broken, chipped, cracked, abraded, or damage in any way, including natural causes, accidents and vandalism, during construction period.
- E. Wash glass on both faces in each area of Project not more than 4 days prior to date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer.

END OF SECTION 088000

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APPENDIX A
ASBESTOS CONTAINING
MATERIAL INSPECTION

Asbestos Containing Materials Inspection

**Missouri School for the Deaf – Wheeler Hall
Fulton, MO**

April 2019

Prepared For:

Robert Rollings Architects, LLC
1806 West Broadway Boulevard
Sedalia, MO 65301

TABLE OF CONTENTS

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Appendix 2 – Diagram of Sample Locations

Appendix 3 – Asbestos Summary Sheet and Analytical Results

Appendix 4 – MDNR Asbestos Fact Sheet

1.0 BACKGROUND

Midwest Environmental Consultants (MEC) evaluated and sampled suspect asbestos containing window caulking on portions of the interior and exterior of Wheeler Hall located on the campus of the Missouri School for the Deaf in Fulton, Missouri. Numerous samples were taken from various portion of the building where windows will be replaced.

Building material that contains more than 1 percent (%) asbestos is considered an asbestos containing material (ACM). There are three categories of ACMs:

- Friable asbestos material, which means it can be crumbled, pulverized, or reduced to powder by hand pressure. An example would be sprayed on acoustical ceiling material.
- Category I non-friable materials. Examples would be resilient floor covering and asphalt roofing materials.
- Category II non-friable materials. An example would be transite house siding.

Regulated asbestos containing materials (RACM) according to National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, Subpart M are:

- Friable asbestos materials that contain more than 1 percent asbestos.
- Category I non-friable asbestos materials that contain more than 1 percent asbestos that have become friable or will be or has been subject to sanding, grinding, cutting, abrading, or burning.
- Category II non-friable asbestos materials that contain more than 1 percent asbestos that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by demolition or renovation operations.

In general accordance with the NESHAP, currently enforced by the Missouri Department of Natural Resources (MDNR), prior to renovation or demolition, structures must be surveyed for the presence of ACMs by a Missouri licensed asbestos inspector. Included in **Appendix 1** is MEC's asbestos inspector's certification.

Additionally, Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101 Asbestos (in construction) Standard, contains specific requirements for owners of buildings concerning asbestos. These requirements include the presumption that certain materials are asbestos containing, or confirmation that certain materials are asbestos containing by sampling and laboratory analysis.

2.0 SAMPLING

The Project consists of approximately 80 sets of windows and a doorway located at Wheeler Hall on the campus of the Missouri School of the Deaf where windows are being removed and replaced. Twelve samples were taken from the interior and 10 samples were taken from the exterior of the building from different locations where the windows and door are being removed. Interior samples consisted of a hard, grey caulking which was located only on a portion of the windows and door. Exterior samples comprised of a flexible, grey caulking which was found consistently throughout the windows and door being replaced. Samples were only taken from areas that were mentioned to be disturbed once the replaced project begins.

In all instances sampling was conducted in accordance with the asbestos NESHAP protocols. The sampling did not include items that were not visible or outside the planned construction area. MEC identified functional spaces and homogeneous areas in the building. A diagram of the ACM sampling locations is included in **Appendix 2**.

3.0 LABORATORY IDENTIFICATION

Samples were submitted to Schneider Laboratories, Inc., a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory, for identification by Polarized Light Microscopy (PLM). PLM is the United States Environmental Protection Agency (USEPA) recommended method for bulk sample analysis. The analytical results are included in **Appendix 3**.

4.0 FINDINGS

The findings section addresses the samples that tested positive for asbestos. All but one of the interior samples tested positive for asbestos. None of the exterior samples tested positive for containing asbestos. Refer to the Asbestos Survey Summary included in **Appendix 3** for the type and location of samples taken.

5.0 CONCLUSION

NESHAP notification is required for all demolition or renovation activities of regulated structures, which require the removal or disturbance of at least 160 square feet or 260 linear feet or 35 cubic feet of friable and/or Category I and Category II non-friable ACM that will be rendered friable during removal, disturbance or disposal. These projects require notification to the Missouri Department of Natural Resources' (MDNR) Air Pollution Control Program at least 10 working days in advance of the start of a regulated asbestos abatement project. A second type of notification is a demolition notification. A 10 day demolition notice is required for the demolition of any regulated structure. The notice is required even if there is no asbestos identified in the structure. Please refer to the MDNR *Asbestos Requirements for Demolition and Renovation Projects* in **Appendix 4** for additional information.

NESHAP and the MDNR require that friable ACM be removed before demolition or renovation. The MDNR recommends that Category I non-friable ACM, which might be rendered friable by demolition, be removed. The MDNR requires that threshold quantities of Category II non-friable ACM that will be impacted must be removed prior to demolition or renovation activities. A State of Missouri registered abatement contractor must remove the friable ACM, which is a RACM.

OSHA has specific work practice standards for friable and non-friable Category I and Category II asbestos-containing materials. While the removal of non-friable materials may not be regulated by the MDNR, the material can still pose a safety risk if handled improperly. For any project involving asbestos, whether regulated by the department or not, the use of trained asbestos professionals that are familiar with OSHA standards should be considered for any work involving asbestos.

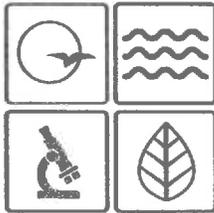


Ryan A. Ortals

Certification # 7118040618MOIR18362

APPENDIX 1

Asbestos Inspector's Certification



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

April 12, 2018

Ryan A Ortbals
2009 E McCarty Street, Suite 2
Jefferson City, MO 65101

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: 7118040618MOIR18362
Course Training Date: April 06, 2018
Missouri Certification Approval Date: April 13, 2018
Missouri Certification Expiration Date: April 13, 2019

Note:

- All Missouri-certified asbestos personnel must comply with the following statutes and regulations:
 - Sections 643.225 to 643.225, 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

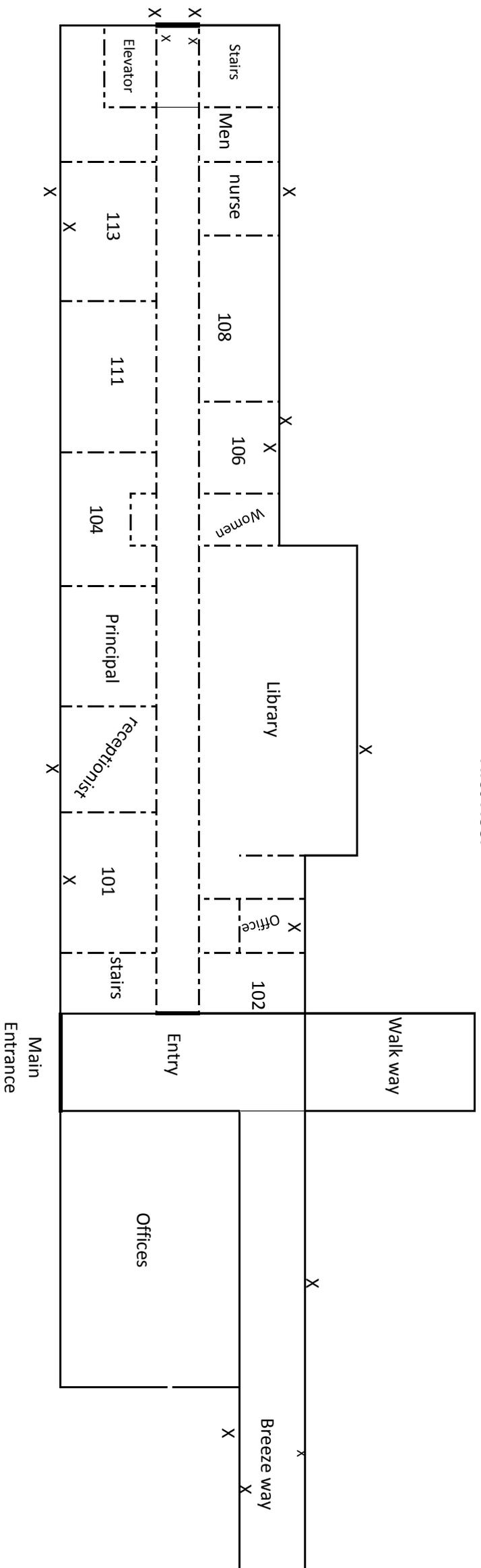
Director of Air Pollution Control Program



APPENDIX 2

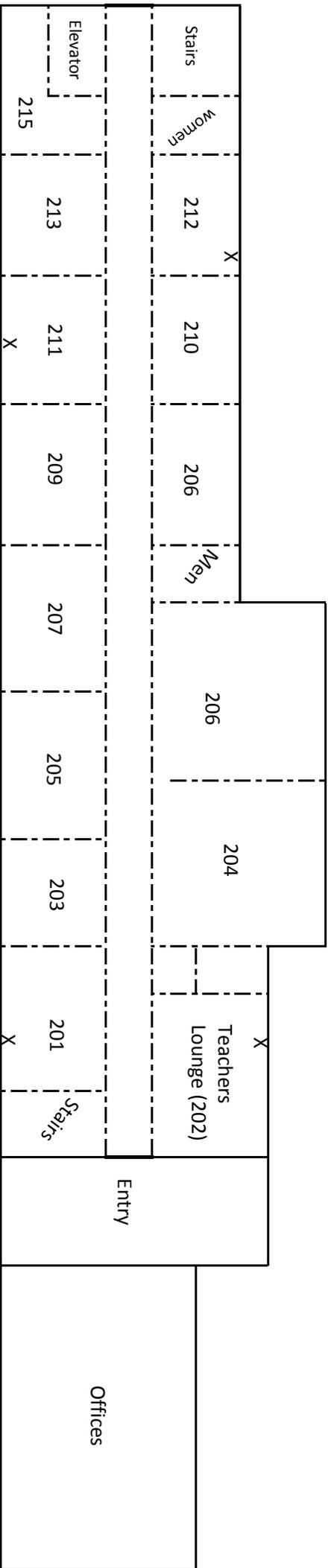
Diagram of Sample Locations and Pictures

Asbestos Sample Location Diagram
Missouri School for the Deaf, Wheeler Hall, Fulton, MO
First Floor



X = sample location

**Asbestos Sample Location Diagram
Missouri School for the Deaf, Wheeler Hall, Fulton, MO
2nd Floor**



X = Sample location

Asbestos Inspection
Robert Rollings Architects – Missouri School for the Deaf, Wheeler Hall
Site visit photos 04/8/2019



1. Front of Wheeler Hall, southern side of building.



2. Western side of building.



3. Back of building, north side.



4. Additional portion of north side of building, including breezeway.



5. Additional portion of south side of building, including breeze way.



6. Sample S-I-1-1, Wheeler Room (101)



7. Sample N-I-1-1, Office Room east of library



8. Sample N-I-1-2, Science Room (106)



9. Sample S-I-1-2, Room 113



10. Sample S-I-2-1, Room 211



11. Sample S-I-2-2, Room 201



12. Sample N-I-2-1, Room 202



13. Sample N-I-2-2, Room 212



14. Sample W-I-1-1, west entry exit near elevator



15. Sample W-I-1-2, west entry near stairs



16. Sample N-I-1-3, breeze way to auditorium



17. Sample S-I-1-3, breeze way to auditorium



18. Sample N-E-1-1, outside window of breeze way



19. Sample N-E-1-2, outside window classroom window



20. Sample W-E-1-1, outside near parking lot



21. Sample W-E-1-2, outside near south side



22. Sample S-E-1-1, breeze way near offices



23. Sample S-E-1-2, outside second windows right of entrance



24. Sample S-E-1-3, first windows left of entrance



25. Sample S-E-1-4 second window from west end



26. Sample N-E-1-3, first window from west entrance



27. Sample N-E-1-4, third window from west entrance

APPENDIX 3

Asbestos Summary Sheet and Analytical Results

Asbestos Survey Summary
Missouri School for the Deaf, Wheeler Hall, Fulton, MO

Homogenous Area	Type of Material Aprox Quantity	Sample I.D.- MEC I.D.	Location of Sample	Friable/ Non-Friable	Asbestos		Condition ³	Potential for Disturbance
					Type ¹	Percent ²		
South Interior windows	caulking	S-I-1-1	Wheeler Room (Rm 101)	Non-Friable	S	2%	Good	Medium
North Interior windows	caulking	N-I-1-1	Office Room East of Library	Non-Friable	S	ND	Good	Medium
North Interior windows	caulking	N-I-1-2	Science Room (106)	Non-Friable	S	2%	Good	Medium
South Interior windows	caulking	S-I-1-2	Room 113, next to custodians	Non-Friable	S	2%	Good	Medium
South Interior windows	caulking	S-I-2-1	2nd floor western side (Rm 211)	Non-Friable	S	2%	Good	Medium
South Interior windows	caulking	S-I-2-2	2nd floor eastern side (Rm 201)	Non-Friable	S	2%	Good	Medium
North Interior windows	caulking	N-I-2-1	2nd floor, eastern side (Rm 202)	Non-Friable	S	2%	Good	Medium
North Interior windows	caulking	N-I-2-2	2nd Floor, computer lab (Rm 212)	Non-Friable	S	2%	Good	Medium
West Interior windows	caulking	W-I-1-1	1st floor, near elevator, west entry exit	Non-Friable	S	2%	Good	Medium
West Interior windows	caulking	W-I-1-2	1st floor near stairs, west entry	Non-Friable	S	2%	Good	Medium
North Interior windows	caulking	N-I-1-3	1st floor, breeze way 2nd window	Non-Friable	S	2%	Good	Medium
South Interior windows	caulking	S-I-1-3	1st floor, breeze way second window	Non-Friable	S	2%	Good	Medium
North Exterior windows	caulking	N-E-1-1	1st floor breeze way outside	Non-Friable	S	ND	Good	Medium
North Exterior windows	caulking	N-E-1-2	1st floor breeze way outside	Non-Friable	S	ND	Good	Medium
West exterior windows	caulking	W-E-1-1	outside near door, north side	Non-Friable	S	ND	Good	Medium
West Exterior windows	caulking	W-E-1-2	outside, south side of door	Non-Friable	S	ND	Good	Medium
South Exterior windows	caulking	S-E-1-1	Breeze way near offices	Non-Friable	S	ND	Good	Medium
South Exterior windows	caulking	S-E-1-2	2nd windows right of entrance	Non-Friable	S	ND	Good	Medium

Homogenous Area	Type of Material Aprox Quantity	Sample I.D.- MEC I.D.	Location of Sample	Friable/ Non-Friable	Asbestos		Condition ³	Potential for Disturbance
					Type ¹	Percent ²		
South Exterior windows	caulking	S-E-1-3	1st windows left of entrance	Non-Friable	S	ND	Good	Medium
South Exterior Windows	caulking	S-E-1-4	2nd windows from west end	Non-Friable	S	ND	Good	Medium
North Exterior Windows	caulking	N-E-1-3	1st window from west entrance	Non-Friable	S	ND	Good	Medium
North Exterior Windows	caulking	N-E-1-4	3rd window from west entrance	Non-Friable	S	ND	Good	Medium

1 - M=Miscellaneous / S=Surfacing

2 - ND= Non Detect

3 - Good Condition / D=Damaged



Analysis Report

Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

Customer: Midwest Environmental Consultants (3553)
Address: 2009 E McCarty Street, Ste. 2
Jefferson City, MO 65101

Order #:	309905
-----------------	--------

Received	04/10/19
Analyzed	04/14/19
Reported	04/15/19

Attn:

Project: Wheeler Hall Asbestos Insp.
Location: 505 East 5th St., Fulton, MO
Number:

Method: EPA 600/R-93/116 & 600/M4-82-020**PLM Analysis**

Sample ID	Collected	Cust. ID	Location	Asbestos Fibers	Other Materials
309905-001	04/08/19	S-I-1-1	Room 101		
Layer 1:	Caulk			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
	White/Cream, Granular				
309905-002	04/08/19	S-I-1-2	Room 113		
Layer 1:	Caulk			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
	White/Cream, Soft				
309905-003	04/08/19	S-I-1-3	Hallway To Adtrm S Side		
Layer 1:	Caulk			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
	White/Cream, Soft				
309905-004	04/08/19	S-I-2-1	Room 211		
Layer 1:	Caulk			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
	White/Cream, Soft				
309905-005	04/08/19	S-I-2-2	Room 201		
Layer 1:	Caulk			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
	White/Cream, Soft				
309905-006	04/08/19	N-I-1-1	Office East Of Library		
Layer 1:	Caulk			None Detected	100% NON FIBROUS MATERIAL
	White, Soft				
309905-007	04/08/19	N-I-1-2	Science Room		
Layer 1:	Caulk			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
	White/Cream, Soft				
309905-008	04/08/19	N-I-1-3	Hallway To Adtrm N Side		
Layer 1:	Caulk			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
	White/Cream, Soft				

Reporting Limit: 1% Gravimetrically Reduced Reporting Limit: 0.01% PLM analysis is based on Visual Estimation and NESHAP recommends that any asbestos content less than 10 percent be verified by PLM Point Count or TEM Analysis. The EPA recommends that any vermiculite should be treated as Asbestos Containing Material (ACM). This report must not be reproduced except in full with the approval of the laboratory. The test results reported relate only to the samples submitted.

Project: Wheeler Hall Asbestos Insp.
Location: 505 East 5th St., Fulton, MO
Number:

Method: EPA 600/R-93/116 & 600/M4-82-020

PLM Analysis

Sample ID	Collected	Cust. ID	Location	Asbestos Fibers	Other Materials
309905-009	04/08/19	N-I-2-1	Room 202		
Layer 1:	Caulk White/Cream, Soft			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
309905-010	04/08/19	N-I-2-2	Room 212		
Layer 1:	Caulk White/Cream, Soft			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
309905-011	04/08/19	N-E-1-1	Northern Wall		
Layer 1:	Caulk Gray, Soft			None Detected	100% NON FIBROUS MATERIAL
309905-012	04/08/19	N-E-1-2	Northern Wall		
Layer 1:	Caulk Gray, Soft			None Detected	100% NON FIBROUS MATERIAL
309905-013	04/08/19	N-E-1-3	Northern Wall		
Layer 1:	Caulk Gray, Soft			None Detected	100% NON FIBROUS MATERIAL
309905-014	04/08/19	N-E-1-4	Northern Wall		
Layer 1:	Caulk Gray, Soft			None Detected	100% NON FIBROUS MATERIAL
309905-015	04/08/19	W-I-1-1	West Doorway		
Layer 1:	Caulk White/Cream, Soft			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
309905-016	04/08/19	W-I-1-2	West Doorway		
Layer 1:	Caulk White/Cream, Soft			2% CHRYSOTILE	98% NON FIBROUS MATERIAL
309905-017	04/08/19	W-E-1-1	West Doorway		
Layer 1:	Caulk Gray, Soft			None Detected	100% NON FIBROUS MATERIAL
309905-018	04/08/19	W-E-1-2	West Doorway		
Layer 1:	Caulk Gray, Soft			None Detected	100% NON FIBROUS MATERIAL

Reporting Limit: 1% Gravimetrically Reduced Reporting Limit: 0.01% PLM analysis is based on Visual Estimation and NESHAP recommends that any asbestos content less than 10 percent be verified by PLM Point Count or TEM Analysis. The EPA recommends that any vermiculite should be treated as Asbestos Containing Material (ACM). This report must not be reproduced except in full with the approval of the laboratory. The test results reported relate only to the samples submitted.

Project: Wheeler Hall Asbestos Insp.
Location: 505 East 5th St., Fulton, MO
Number:

Method: EPA 600/R-93/116 & 600/M4-82-020

PLM Analysis

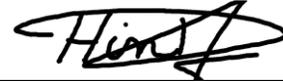
Sample ID	Collected	Cust. ID	Location	Asbestos Fibers	Other Materials
309905-019	04/08/19	S-E-1-1	Southern Wall		
Layer 1: Caulk Gray, Soft				None Detected	100% NON FIBROUS MATERIAL
309905-020	04/08/19	S-E-1-2	Southern Wall		
Layer 1: Caulk Gray, Soft				None Detected	100% NON FIBROUS MATERIAL
309905-021	04/08/19	S-E-1-3	Southern Wall		
Layer 1: Caulk Gray, Soft				None Detected	100% NON FIBROUS MATERIAL
309905-022	04/08/19	S-E-1-4	Southern Wall		
Layer 1: Caulk Gray, Soft				None Detected	100% NON FIBROUS MATERIAL

EPA Regulatory Limit: 1%
 Total layers analyzed on order: 22

309905-04/15/19 08:42 AM



Analyst **Elsamani Abdelfadiel**



Reviewed By: **Hind Eldanaf**
 Microscopy Supervisor

Reporting Limit: 1% Gravimetrically Reduced Reporting Limit: 0.01% PLM analysis is based on Visual Estimation and NESHAP recommends that any asbestos content less than 10 percent be verified by PLM Point Count or TEM Analysis. The EPA recommends that any vermiculite should be treated as Asbestos Containing Material (ACM). This report must not be reproduced except in full with the approval of the laboratory. The test results reported relate only to the samples submitted.



SCHNEIDER LABORATORIES GLOBAL, INC.

2512 West Cary Street, Richmond, Virginia 23220-5117
 804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475
 www.slabinc.com • info@slabinc.com

309905



S 22

V:13091309905

fghraizi 4/10/2019 10:02:56 AM
 Federal Express 77491 2269420

Submitting Co.	Midwest Environmental Consultants	State of Collection	MO	Cert. Required	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2009 E. McCarty Street, Suite 2		Acct #	3553	Phone	(573) 636-9454
Jefferson City, Missouri 65109		Email	rortbals@mecpc.com		
Project Name	Wheeler Hall Asbestos Inspection	PO #			
Project Location	505 East 5th Street, Fulton, MO	Special Instructions:			
Project Number					
Collected By	Ryan Ortbals, Ross Schmutzler				

Turn Around Time**	Matrix	Tests/Analytes (Select ALL that Apply) Blank spaces are for additional analytes			
<input type="checkbox"/> 2 Hour * <input type="checkbox"/> Same day * <input type="checkbox"/> 1 business day <input type="checkbox"/> 2 business days <input checked="" type="checkbox"/> 3 business days <input type="checkbox"/> 5 business days * not available for all tests ** past 3 PM the TAT will begin next business day Please schedule rush tests in advance	<input type="checkbox"/> Air <input type="checkbox"/> Paint <input type="checkbox"/> Soil <input type="checkbox"/> Wipe <input checked="" type="checkbox"/> Bulk <input type="checkbox"/> Waste Water <input type="checkbox"/> Ground Water <input type="checkbox"/> Drinking Water <input type="checkbox"/> TSP / PM10 <input type="checkbox"/> _____	Asbestos in Bulk	Metals Total	TCLP	Microbiology
		<input checked="" type="checkbox"/> PLM	<input type="checkbox"/> Lead	<input type="checkbox"/> Lead	<input type="checkbox"/> BACT (MPN/PA)
		<input type="checkbox"/> PLM Qualitative	<input type="checkbox"/> RCRA 8 Metals	<input type="checkbox"/> RCRA 8 Metals	<input type="checkbox"/> Mold Direct Exam
		<input type="checkbox"/> 400 Point Count	<input type="checkbox"/> Chromium VI	<input type="checkbox"/> Full TCLP (w/ organics 10 Day)	<input type="checkbox"/> Allergens
		<input type="checkbox"/> 1000 Point Count	<input type="checkbox"/> Mercury		Sub-Contract
		<input type="checkbox"/> Gravimetric Prep	<input type="checkbox"/> _____		<input type="checkbox"/> TEM Chatfield
		Asbestos in Air	Gravimetric	Miscellaneous	<input type="checkbox"/> TEM AHERA
		<input type="checkbox"/> PCM	<input type="checkbox"/> Total Dust NIOSH 0500	<input type="checkbox"/> Silica FTIR (7602)	<input type="checkbox"/> TEM 7402
		<input type="checkbox"/> PCM-B Rules	<input type="checkbox"/> Resp. Dust NIOSH 0600	<input type="checkbox"/> _____	<input type="checkbox"/> Silica XRD (7500)

Sample #	Date Sampled	Time Sampled	Sample Identification (Employee, Bldg, Material, Type ¹)	Wipe Area	Time ²		Flow Rate ³		Total Air ⁴
					Start	Stop	Start	Stop	
S-I-1-1	4/8/2019	9:15	Interior Caulk, Room 101						
S-I-1-2	4/8/2019	9:15	Interior Caulk, Room 113						
S-I-1-3	4/8/2019	9:45	Interior Caulk, Hallway to Auditorium, South Side						
S-I-2-1	4/8/2019	9:30	Interior Caulk, Room 211						
S-I-2-2	4/8/2019	9:30	Interior Caulk, Room 201						
N-I-1-1	4/8/2019	9:15	Interior Caulk, Office east of Library						
N-I-1-2	4/8/2019	9:15	Interior Caulk, Science Room						
N-I-1-3	4/8/2019	9:45	Interior Caulk, Hallway to Auditorium, North Side						
N-I-2-1	4/8/2019	9:30	Interior Caulk, Room 202						
N-I-2-2	4/8/2019	9:30	Interior Caulk, Room 212						

For Aqueous and Solid samples ensure enough sample is sent for duplicate and spike analysis

¹Type: A=Area, B=Blank, P=Personal, E=Excursion ²Beginning/End of Sample Period ³Liters/Minute ⁴Volume in Liters [time in min x flow in L/min]

Relinquished By: Ryan Ortbals

Signature: *[Signature]*

Date/Time: 4/8/19, 3:30

! ALL SHADED FIELDS MUST BE FILLED TO AVOID DELAYS !



SCHNEIDER LABORATORIES GLOBAL, INC.

2512 West Cary Street, Richmond, Virginia 23220-5117
 804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475
 www.slabinc.com • info@slabinc.com

Submitting Co.	Midwest Environmental Consultants	State of Collection	MO	Cert. Required	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2009 E. McCarty Street, Suite 2		Acct #	3553	Phone	(573) 636-9454
Jefferson City, Missouri 65109		Email	rortbals@mecpc.com		
Project Name	Wheeler Hall Asbestos Inspection	PO #			
Project Location	505 East 5th Street, Fulton, MO	Special Instructions:			
Project Number					
Collected By	Ryan Ortballs, Ross Schmutzler				

Turn Around Time**	Matrix	Tests/Analytes (Select ALL that Apply) Blank spaces are for additional analytes			
<input type="checkbox"/> 2 Hour * <input type="checkbox"/> Same day * <input type="checkbox"/> 1 business day <input type="checkbox"/> 2 business days <input checked="" type="checkbox"/> 3 business days <input type="checkbox"/> 5 business days * not available for all tests ** past 3 PM the TAT will begin next business day Please schedule rush tests in advance	<input type="checkbox"/> Air <input type="checkbox"/> Paint <input type="checkbox"/> Soil <input type="checkbox"/> Wipe <input checked="" type="checkbox"/> Bulk <input type="checkbox"/> Waste Water <input type="checkbox"/> Ground Water <input type="checkbox"/> Drinking Water <input type="checkbox"/> TSP / PM10 <input type="checkbox"/> _____	Asbestos in Bulk	Metals Total	TCLP	Microbiology
		<input checked="" type="checkbox"/> PLM <input type="checkbox"/> PLM Qualitative <input type="checkbox"/> 400 Point Count <input type="checkbox"/> 1000 Point Count <input type="checkbox"/> Gravimetric Prep	<input type="checkbox"/> Lead <input type="checkbox"/> RCRA 8 Metals <input type="checkbox"/> Chromium VI <input type="checkbox"/> Mercury <input type="checkbox"/> _____	<input type="checkbox"/> Lead <input type="checkbox"/> RCRA 8 Metals <input type="checkbox"/> Full TCLP (w/ organics 10 Day)	<input type="checkbox"/> BACT (MPN/PA) <input type="checkbox"/> Mold Direct Exam <input type="checkbox"/> Allergens
		Asbestos in Air	Gravimetric	Miscellaneous	Sub-Contract
		<input type="checkbox"/> PCM <input type="checkbox"/> PCM-B Rules	<input type="checkbox"/> Total Dust NIOSH 0500 <input type="checkbox"/> Resp. Dust NIOSH 0600	<input type="checkbox"/> Silica FTIR (7602) <input type="checkbox"/> _____	<input type="checkbox"/> TEM Chatfield <input type="checkbox"/> TEM AHERA <input type="checkbox"/> TEM 7402 <input type="checkbox"/> Silica XRD (7500)

Sample #	Date Sampled	Time Sampled	Sample Identification (Employee, Bldg, Material, Type ¹)	Wipe Area	Time ²		Flow Rate ³		Total Air ⁴
					Start	Stop	Start	Stop	
N-E-1-1	4/8/2019	10:15	Exterior Caulk, Northern Wall						
N-E-1-2	4/8/2019	10:15	Exterior Caulk, Northern Wall						
N-E-1-3	4/8/2019	10:15	Exterior Caulk, Northern Wall						
N-E-1-4	4/8/2019	10:15	Exterior Caulk, Northern Wall						

For Aqueous and Solid samples ensure enough sample is sent for duplicate and spike analysis

¹Type: A=Area, B=Blank, P=Personal, E=Excursion ²Beginning/End of Sample Period ³Liters/Minute ⁴Volume in Liters [time in min x flow in L/min]

Relinquished By: Ryan Ortballs Signature: *[Signature]* Date/Time: 4/9/19, 7:30 pm

! ALL SHADED FIELDS MUST BE FILLED TO AVOID DELAYS !



SCHNEIDER LABORATORIES GLOBAL, INC.

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 804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475
 www.slabinc.com • info@slabinc.com

Submitting Co.	Midwest Environmental Consultants	State of Collection	MO	Cert. Required	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2009 E. McCarty Street, Suite 2		Acct #	3553	Phone	(573) 636-9454
Jefferson City, Missouri 65109		Email	rortbals@mecpc.com		
Project Name	Wheeler Hall Asbestos Inspection	PO #			
Project Location	505 East 5th Street, Fulton, MO	Special Instructions:			
Project Number					
Collected By	Ryan Ortbals, Ross Schmutzler				

Turn Around Time **	Matrix	Tests/Analytes (Select ALL that Apply) Blank spaces are for additional analytes			
<input type="checkbox"/> 2 Hour * <input type="checkbox"/> Same day * <input type="checkbox"/> 1 business day <input type="checkbox"/> 2 business days <input checked="" type="checkbox"/> 3 business days <input type="checkbox"/> 5 business days * not available for all tests ** past 3 PM the TAT will begin next business day Please schedule rush tests in advance	<input type="checkbox"/> Air <input type="checkbox"/> Paint <input type="checkbox"/> Soil <input type="checkbox"/> Wipe <input checked="" type="checkbox"/> Bulk <input type="checkbox"/> Waste Water <input type="checkbox"/> Ground Water <input type="checkbox"/> Drinking Water <input type="checkbox"/> TSP / PM10 <input type="checkbox"/> _____	Asbestos in Bulk	Metals Total	TCLP	Microbiology
		<input checked="" type="checkbox"/> PLM	<input type="checkbox"/> Lead	<input type="checkbox"/> Lead	<input type="checkbox"/> BACT (MPN/PA)
		<input type="checkbox"/> PLM Qualitative	<input type="checkbox"/> RCRA 8 Metals	<input type="checkbox"/> RCRA 8 Metals	<input type="checkbox"/> Mold Direct Exam
		<input type="checkbox"/> 400 Point Count	<input type="checkbox"/> Chromium VI	<input type="checkbox"/> Full TCLP <small>(w/ organics 10 Day)</small>	<input type="checkbox"/> Allergens
		<input type="checkbox"/> 1000 Point Count	<input type="checkbox"/> Mercury		Sub-Contract
		<input type="checkbox"/> Gravimetric Prep	<input type="checkbox"/> _____		<input type="checkbox"/> TEM Chatfield
		Asbestos in Air	Gravimetric	Miscellaneous	<input type="checkbox"/> TEM AHERA
		<input type="checkbox"/> PCM	<input type="checkbox"/> Total Dust NIOSH 0500	<input type="checkbox"/> Silica FTIR (7602)	<input type="checkbox"/> TEM 7402
		<input type="checkbox"/> PCM-B Rules	<input type="checkbox"/> Resp. Dust NIOSH 0600	<input type="checkbox"/> _____	<input type="checkbox"/> Silica XRD (7500)

Sample #	Date Sampled	Time Sampled	Sample Identification (Employee, Bldg, Material, Type ¹)	Wipe Area	Time ²		Flow Rate ³		Total Air ⁴
					Start	Stop	Start	Stop	
W-I-1-1	4/8/2019	9:30	Interior Caulk, West Doorway						
W-I-1-2	4/8/2019	9:30	Interior Caulk, West Doorway						
W-E-1-1	4/8/2019	10:00	Exterior Caulk, West Doorway						
W-E-1-2	4/8/2019	10:00	Exterior Caulk, West Doorway						
S-E-1-1	4/8/2019	10:45	Exterior Caulk, Southern Wall						
S-E-1-2	4/8/2019	10:45	Exterior Caulk, Southern Wall						
S-E-1-3	4/8/2019	10:45	Exterior Caulk, Southern Wall						
S-E-1-4	4/8/2019	10:45	Exterior Caulk, Southern Wall						

For Aqueous and Solid samples ensure enough sample is sent for duplicate and spike analysis

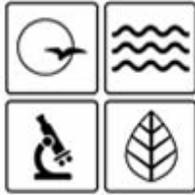
¹Type: A=Area, B=Blank, P=Personal, E=Excursion ²Beginning/End of Sample Period ³Liters/Minute ⁴Volume in Liters [time in min x flow in L/min]

Relinquished By: Ryan Ortbals Signature: *Ryan Ortbals* Date/Time 4/9/19, 3:30pm

! ALL SHADED FIELDS MUST BE FILLED TO AVOID DELAYS !

APPENDIX 4

MDNR Asbestos Fact Sheet



Missouri Department of Natural Resources

Asbestos Requirements for Demolition and Renovation Projects

Air Pollution Control Program fact sheet

05/2017

Division of Environmental Quality Director: Ed Galbraith

PUB02157

Disclaimer: The statements in this document are intended solely as guidance. This document is not intended, nor can it be relied on, to create any rights enforceable by any party in litigation. This guidance may be revised without public notice to reflect changes in law, regulation or policy.

Introduction

This document is one in a series of fact sheets about the Missouri Department of Natural Resources' asbestos requirements. This particular document contains information regarding how to determine if your demolition or renovation project is regulated by the department's air pollution control requirements. It also will help explain the basic requirements for asbestos inspection and asbestos abatement as well as for notification of regulated demolition and renovation projects. In addition, it discusses requirements for disposing of asbestos waste.

Determining if Your Project Will Involve Regulated Structures

The first step in determining if your demolition or renovation project is regulated is to determine the type of structure that will be affected. The department regulates demolition and renovation projects involving institutional, commercial, public, industrial, or residential structures, installations or buildings. An exception to this regulation is a single residential structure that contains four or fewer dwelling units. Projects that involve two or more residential structures are not exempt. Two or more residential structures being demolished as part of an urban or rural renewal or an unsafe building abatement program are not exempt, regardless of their proximity to each other. Projects that involve demolition of two or more mobile homes are not exempt. If the structure has been used for any purpose other than residential, such as being converted from residential to commercial use or converted from commercial to residential use, it is not exempt. Any residential structure used in fire training exercises is not exempt.

Should a regulated structure be demolished by a catastrophic event, such as a tornado or accidental fire, the department's Air Pollution Control Program should be contacted for guidance.

Inspection Requirements

Prior to demolition or renovation activities, regulated structures or those areas that will be subject to demolition or renovation activities must be thoroughly inspected by a Missouri certified asbestos inspector to determine if any asbestos-containing materials are present. The inspector should identify all potential asbestos-containing (suspect) materials that may be disturbed by the demolition or renovation activity. Samples of the suspect materials should be collected and submitted for laboratory analysis to determine if they contain asbestos. The inspector should generate a report of his or her findings from the inspection. The report should identify all suspect materials present, and indicate the amount, location, category and condition of the suspect materials. The report should also include a copy of the analytical results and chain of custody for all samples collected.

If a regulated structure is structurally unsound, it may not be possible to thoroughly inspect the entire structure. An inspection should be performed in all areas of the structure where it is safe to do so. The final inspection report should clearly indicate what areas, if any, were not inspected. Areas of the building that were not inspected will require special handling during demolition.

A list of Missouri certified asbestos inspectors is available on the department's website at www.dnr.mo.gov/env/apcp/asbestos.htm.

Categories of Asbestos-Containing Materials

There are three categories of asbestos-containing materials that may be identified by an inspector.

- **Friable asbestos-containing material** - Any material containing more than one percent asbestos that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. Examples include sprayed or troweled-on materials such as acoustical ceiling spray or boiler insulation, paper pipe insulation and drop-in ceiling tile.
- **Category I nonfriable asbestos-containing material** - Asbestos-containing packings, gaskets, *resilient floor covering and asphalt roofing products containing more than one percent asbestos. *(Any asbestos-containing vapor barrier on resilient floor coverings such as sheet vinyl or tile is considered friable asbestos).
- **Category II nonfriable asbestos-containing material** - Any nonfriable material, other than Category I materials, containing more than one percent asbestos. Examples of Category II materials include asbestos cement wall or roof shingles and cement pipe.

Depending on the type or category of the asbestos-containing materials identified from the inspection and the forces that will eventually act upon them during demolition and renovation, the materials may or may not be regulated by the department's asbestos requirements. To determine the applicability of the department's asbestos requirements, you must determine if the asbestos from your project will meet the definition of regulated asbestos-containing material, or RACM.

RACM includes friable asbestos-containing materials; Category I nonfriable materials that have become or will become friable, or have been subject to sanding, grinding, cutting, burning, or abrading; or Category II nonfriable materials that have a high probability of becoming, or have become, crumbled, pulverized or reduced to powder by the work practices used during the course of demolition or renovation.

Requirements for Abatement of Regulated Asbestos-Containing Material

If the asbestos inspection determines 160 square feet, 260 linear feet, 35 cubic feet (threshold quantities), or more of RACM will be impacted by demolition or renovation activities, all of the RACM must be removed by a Missouri registered asbestos abatement contractor.

Abatement contractors are trained in the proper procedures for safely removing and disposing of asbestos-containing material and may only employ workers trained and subsequently, certified by the department to participate on a regulated project. A list of Missouri registered asbestos abatement contractors is available on the department's website at www.dnr.mo.gov/env/apcp/asbestos.htm.

If a building is structurally unsound and unsafe to enter, there may be provisions that would allow the building to be demolished without being inspected or having the RACM removed. In this event contact the Air Pollution Control Program.

Requirements for Abatement of Nonfriable Asbestos-Containing Materials

Most nonfriable materials are not considered RACM unless they are in poor condition or are rendered into RACM by the work practices during demolition or renovation. Category I nonfriable materials can generally be left in place during demolition activities provided the method of demolition will not make the material into RACM. However, for certain types of Category I materials, such as floor tile and linoleum, the department generally recommends removal prior to demolition because these materials could easily be rendered into RACM during the demolition process. Also, leaving these materials in place may increase the amount of material considered as asbestos waste and the cost of disposal. If Category I ACM is left in place, work practices must be implemented to ensure the material is not made into RACM during removal or demolition. Any activity that will result in the material being subject to sanding, grinding, cutting, abrading, or burning may cause the material to become subject to regulation, depending on the quantity involved.

If threshold quantities of Category II materials will be impacted, then they must be removed prior to demolition or renovation activities. This removal must be performed in a manner that does not render the material into RACM. If the material is crumbled, pulverized or reduced to powder during the demolition or removal process, the material

may become subject to regulation depending on the quantity involved.

The Occupational Safety and Health Administration, or OSHA, has specific work practice standards for friable and nonfriable Category I and Category II asbestos-containing materials. While the removal of nonfriable materials may not be regulated by the department, the material can still pose a safety risk if handled improperly. For any project involving asbestos, whether regulated by the department or not, the use of trained asbestos professionals that are familiar with OSHA standards should be considered for any work involving asbestos.

Notification Requirements

There are two types of notifications required by the department in regard to demolition and renovation projects, asbestos abatement project notification and demolition project notification. Asbestos abatement project notifications must be submitted to the department at least 10 working days prior to the start of a regulated asbestos abatement project. A copy of the asbestos inspection report and laboratory analytical results must accompany the notification. The notification period allows the department time to inspect the project and ensure it is being performed in compliance with all of the applicable requirements. A \$200 review fee is required for each notification of an asbestos abatement project.

Alternate notification provisions may apply in emergency situations. In this event contact the Air Pollution Control Program.

The second type of notification is demolition notification. Demolition notifications must be provided to the department at least 10 working days prior to the demolition of any regulated structure. A \$100 review fee is required for each demolition notification.

This notice is required even if there is no asbestos identified in the structure being demolished. This notification period provides the department the opportunity to inspect the structure prior to demolition to ensure all asbestos issues have been properly addressed. A copy of the asbestos inspection report and laboratory analytical results must accompany this notification. In the event a structure is in danger of imminent collapse and has been ordered demolished by a state or local government agency, the department can waive the 10 working day notification period. In this case, notice should be provided as early as possible before, but no later than the following working day. A copy of the government order must also be included with the notification.

It is the obligation of the owner and any contractors involved to ensure these notifications are provided to the department. Failure to submit the notification is a violation of the department's requirements. The department will issue a notice of receipt letter for all asbestos abatement and demolition project notifications. The notice of receipt letter will list any deficiencies in the notification of abatement or demolition.

Copies of the required notification forms are available on the department's website at www.dnr.mo.gov/env/apcp/asbestos.htm.

Asbestos Waste Disposal Requirements

Asbestos waste from regulated projects involving threshold quantities of RACM must be handled in strict accordance with the department's requirements for asbestos waste disposal. Wastes from these projects must be transferred to an approved sanitary landfill or transfer station by registered asbestos abatement contractors, who are trained in the provisions for proper waste disposal.

Non-friable asbestos-containing materials that are not made into RACM are not regulated by the department's asbestos requirements. However, this material is considered a solid waste and must be properly disposed of at an approved landfill or transfer facility in accordance with the Solid Waste Management Law. You should contact the facility where you plan to dispose of your asbestos waste for information on how the material should be packaged and delivered to their facility for disposal.

Asbestos Contact Information

For more information on the department's asbestos requirements, you may contact the department's Air Pollution Control Program or one of the department's other offices:

Local Agencies

In Missouri, there are two local agencies that have an agreement with the department to enforce Missouri's asbestos requirements as well as local ordinances. These local agencies are:

Jurisdiction	Agency	Telephone
Kansas City	Kansas City Health Department Air Quality Program	816-513-6314
St. Louis County	St. Louis County Health Department	314-615-8924

Two additional local agencies do not enforce Missouri's asbestos requirements but may have local ordinances concerning asbestos which they enforce:

Jurisdiction	Agency	Telephone
St. Louis (city)	St. Louis Division of Air Pollution Control Air Quality Program	314-613-7300
Springfield	Springfield-Greene County Health Department of Environmental Services	417-864-1412

Prior to performing a project in one of these jurisdictions, you should contact the appropriate agency to determine if any additional requirements apply.

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102
573-751-4817
573-751-2706 fax
<http://www.dnr.mo.gov/env/apcp/>

Other Department OfficesRegional Offices

Kansas City Regional Office
500 NE Colbern Road
Lee's Summit, MO 64086-4710
816-251-0700
816-622-7044 fax

Northeast Regional Office
1709 Prospect Dr.
Macon, MO 63552-2602
660-385-8000
660-385-8090 fax

St. Louis Regional Office
7545 S. Lindbergh, Suite 210
St. Louis, MO 63125
314-416-2960
314-416-2970 fax

Southeast Regional Office
2155 N. Westwood Blvd.

Poplar Bluff, MO 63901
573-840-9750
573-840-9754 fax

Southwest Regional Office
2040 W. Woodland
Springfield, MO 65807-5912
417-891-4300
417-891-4399 fax

Additional Asbestos Related Guidance Documents

For more specific information about the department's requirements in regard to asbestos, reference the additional guidance documents listed below or contact the department or appropriate local agency at the contact information found in this fact sheet.

These documents are available for free download from the department's website at www.dnr.mo.gov/pubs/index.html.

- [Asbestos: What is it and why is it a concern?, Fact Sheet--PUB2077](#)
- [How to Handle Asbestos-Containing Debris, Fact Sheet--PUB2121](#)
- [Management of Nonfriable Asbestos Containing Materials, Fact Sheet--PUB2156](#)
- [Requirements for Fire Training Exercises Involving Structures, Fact Sheet--PUB2029](#)

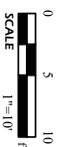
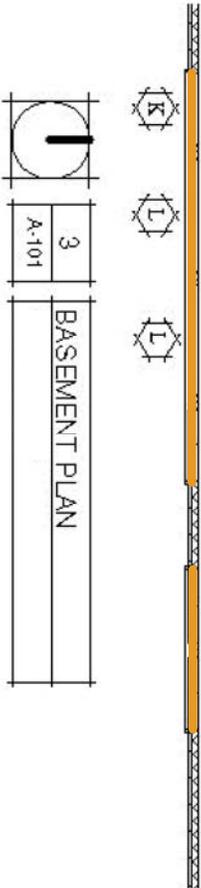
Nothing in this document may be used to implement any enforcement action or levy any penalty unless promulgated by rule under chapter 536 or authorized by statute.

For more information

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
573-751-4817 or 800-361-4827
<http://dnr.mo.gov/env/apcp/>

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APPENDIX B
ASBESTOS ABATEMENT
DRAWINGS



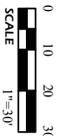
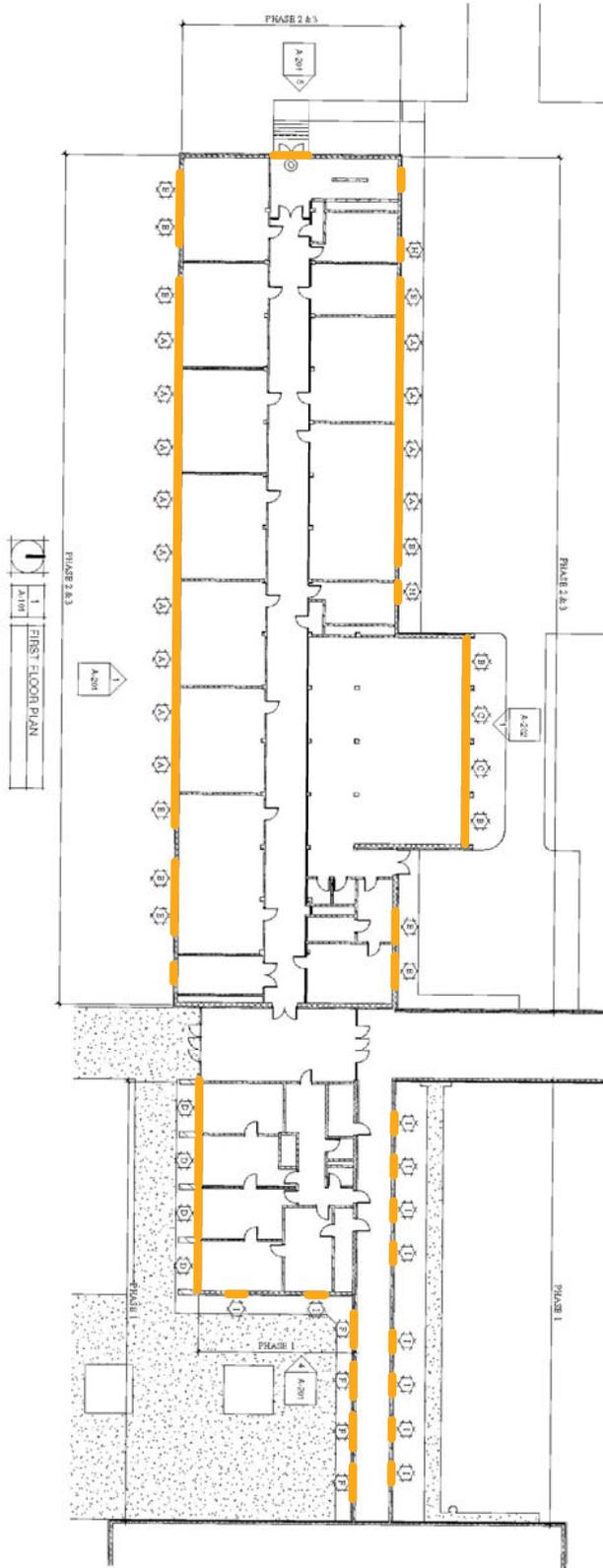
JOB NUMBER
2011 S-0163-21
DATE 08/20/19
DRAWN BY HDG
CHECKED BY B.L.L.
FIGURE 3



PROJECT NAME
MO SCHOOL FOR THE DEAF
FULTON, MISSOURI
ASBESTOS LOCATION MAP
BASEMENT

GENERAL NOTES/LEGEND
 LOCATION OF ASBESTOS-CONTAINING WINDOW CAULK
 SITE PLAN OBTAINED FROM ROBERT ROLLINGS ARCHITECTS, LLC., DATED 7/19/2019.
 DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.





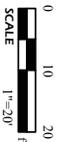
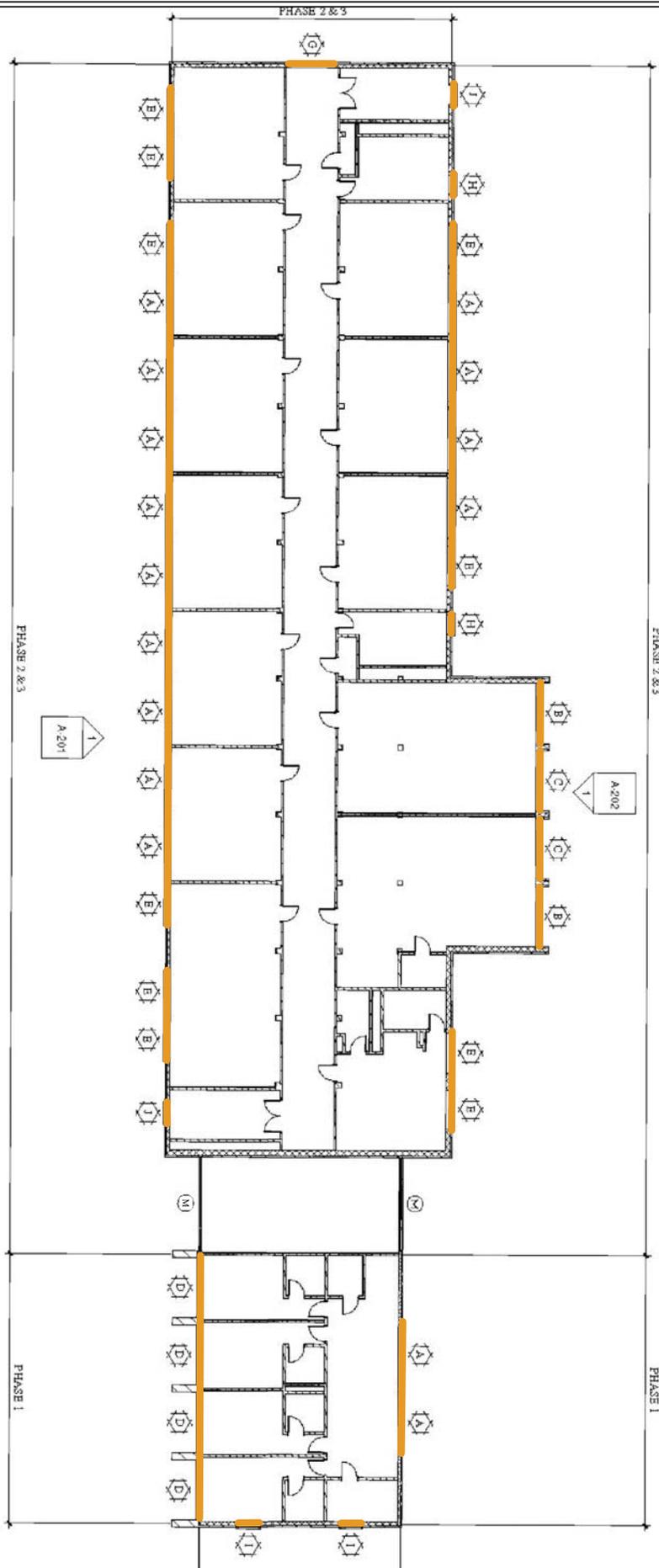
JOB NUMBER
 2011 S-0163-21
 DATE 08/20/19
 DRAWN BY HDG
 CHECKED BY B.L.L.
 FIGURE 1



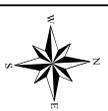
PROJECT NAME
 MO SCHOOL FOR THE DEAF
 FULTON, MISSOURI
 ASBESTOS LOCATION MAP
 FLOOR 1

GENERAL NOTES/LEGEND
 LOCATION OF ASBESTOS-CONTAINING WINDOW CAULK
 SITE PLAN OBTAINED FROM ROBERT ROLLINGS ARCHITECTS, LLC., DATED 7/19/2019.
 DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.





JOB NUMBER: 2011S40163.21
 DATE: 08/20/19
 DRAWN BY: HDG
 CHECKED BY: B.L.L.
 FIGURE: 2



PROJECT NAME
 MO SCHOOL FOR THE DEAF
 FULTON, MISSOURI
 ASBESTOS LOCATION MAP
 FLOOR 2

GENERAL NOTES/LEGEND
 LOCATION OF ASBESTOS-CONTAINING WINDOW CAULK
 SITE PLAN OBTAINED FROM ROBERT ROLLINGS ARCHITECTS, LLC., DATED 7/19/2019.
 DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.

