

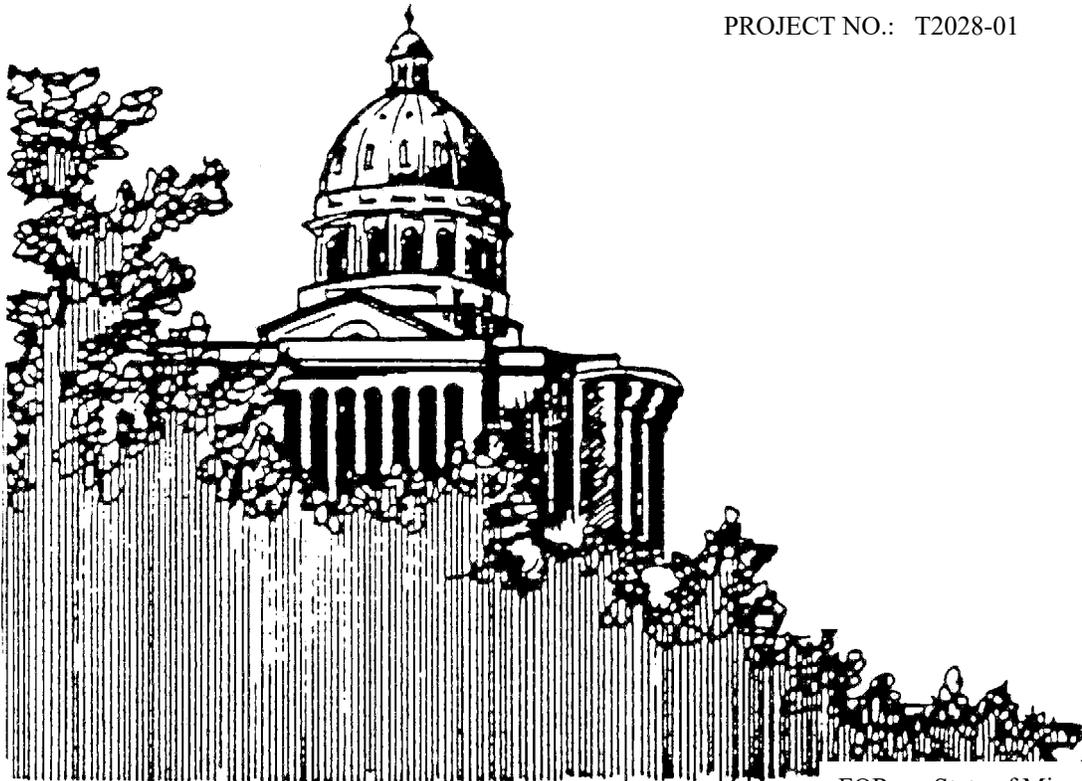
PROJECT MANUAL

Window Replacement Building 1029 Missouri National Guard FLW Building 1029 Ft. Leonard Wood, Missouri

DESIGNED BY: MONG IN-HOUSE DESIGN -
FACILITIES
6819 NORTH BOUNDARY ROAD
JEFFERSON CITY, MO 65101

DATE ISSUED: 4/13/2020

PROJECT NO.: T2028-01



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

SECTION 00 01 07 - PROFESSIONAL SEALS AND CERTIFICATIONS

PROJECT NUMBER:

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:

SEAL



Digitally signed by
LESKO, KEITH AUGUST, 1456071542
Date: 2020.04.15 11:26:37 -0500

Date: 04-15-2020
Keith Lesko, Architect
MO # A-6176

ARCHITECT OF RECORD

Missouri National Guard – Facilities Office
6819 North Boundary Road
Jefferson City, MO. 65101
Phone: 573-638-9500 Ext. 37967

Sections:

079200 – Joint Sealants
085113 – Aluminum Windows

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SECTION 000115 – LIST OF DRAWINGS

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:

| | <u>TITLE</u> | <u>SHEET #</u> | <u>DATE</u> | <u>CAD #</u> |
|----|---------------------------------|-----------------------|--------------------|---------------------|
| 1. | Cover Sheet | Sheet G-001 | 04/13/20 | G-001 |
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END OF SECTION 000115

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 Building 1029
Missouri National Guard
FLW Building 1029
Ft. Leonard Wood, Missouri

Project No.: T2028-01

3.0 BIDS WILL BE RECEIVED:

- A. Until: 1:30 PM, Thursday, June 11, 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 demolition of existing windows and transite panels and installation of new windows.
- B. Estimate: \$380,000 to \$522,500
- 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 AM; Thursday, May 28, 2020; Building 1029, 13334 Artillery Circle, Fort Leonard Wood, MO 65473.

PLEASE NOTE: All contractors/bidders without current access to Fort Leonard Wood are required to check in at the main gate visitor's center and meet with Jeremy Newton 30 minutes prior to the start of the meeting. Mr. Newton will escort bidders to the Pre-Bid Meeting location.

- B. Access to State of Missouri property requires presentation of a photo ID by all persons

1.) Accessing Fort Leonard Wood following the REAL ID Act of 2005: Effective 11 January 2016, Fort Leonard Wood can no longer accept for access purposes the following state issued driver licenses (DLs) that do not meet the standards of the REAL ID Act of 2005: Illinois, Minnesota, Missouri, New Mexico and Washington. Individuals(s) requesting access with one of the above state DLs will also need to present along with the non-compliant DL one of the documents below to prove identity in order to be vetted and issued an installation pass:

- United States Passport of United States Passport Card
- Certified Copy of Birth Certificate
- Social Security Card
- Permanent Resident Card/Alien Registration Receipt Card (Form I-551)
- Foreign passport with Form I-94 or Form I-94A bearing same name as passport and containing an endorsement of the alien's nonimmigrant status, as long as the endorsement has not expired and proposed employment is not in conflict with restrictions or limitations identified on the form.
- School identification card with photograph
- U.S. Military or draft record (certified Copy of DD Form 214)
- U.S. Coast Guard Merchant Mariner Card
- Transportation Worker Identification Card (TWIC)
- Native American Tribal Document

2.) Visitor(s) requesting access without a REAL ID Act compliant form of identification or cannot provide supplemental identity proofing documents as listed above, must be escorted by a DOD credentialed person at all times while on the installation. All persons requesting unescorted access will continue to be vetted through the National Crime Information Center, prior to being issued an installation pass.

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: MONG IN-HOUSE DESIGN - FACILITIES, Keith Lesko, phone # (573) 638-9503, fax # (573) 638-9746
- B. Project Manager: Jeremy Newton, phone # 573-638-9500; 37484 , 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.

IMPORTANT INFORMATION REGARDING REQUIREMENT FOR OEO CERTIFICATION

SPECIFICATION CHANGES:

A. SECTION 002113 – INSTRUCTIONS TO BIDDERS: Article 14.0, Section B.1. (bottom of page 6 of 8): Delete: “an MBE or WBE must be certified by the State of Missouri, Office of Equal Opportunity and”.

To allow MBE, WBE, or MBE/WBE contractors, subcontractors, and suppliers to have ample time to register with the Office of Equal Opportunity, this requirement will not take effect until July 1, 2020. Until then, we will continue to accept certifications from the Office of Equal Opportunity and other Missouri certifying agencies.

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 Kelly Copeland: 573-522-2283, kelly.copeland@oa.mo.gov, Paul Girouard: 573-751-4797, paul.girouard@oa.mo.gov, or Mandy Roberson: 573-522-0074, mandy.roberson@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>



State of Missouri Construction Contract

THIS AGREEMENT, made (DATE) by and between:

Contractor Name and Address

hereinafter called the "Contractor,"

and the **State of Missouri**, hereinafter called the "**Owner**", represented by the Office of Administration, Division of Facilities Management, Design and Construction, on behalf of the Department of Public Safety-Missouri National Guard.

WITNESSETH, that the Contractor and the Owner, for the consideration stated herein agree as follows:

ARTICLE 1. STATEMENT OF WORK

The Contractor shall furnish all labor and materials and perform all work required for furnishing and installing all labor, materials, equipment and transportation and everything necessarily inferred from the general nature and tendency of the plans and specifications for the proper execution of the work for:

Project Name: **Window Replacement Building 1029
Missouri National Guard
FLW Building 1029
Ft. Leonard Wood, Missouri**

Project Number: **T2028-01**

in strict accordance with the Contract Documents as enumerated in Article 7, all of which are made a part hereof.

ARTICLE 2. TIME OF COMPLETION

The contract performance time is **200** working days from the transmittal date of this agreement. The contract completion date is **MONTH, DAY, YEAR**. This time includes ten (10) working days for the Contractor to receive, sign and return the contract form along with required bonding and insurance certificates. Failure of the Contractor to provide correct bonding and insurance within the ten (10) working days shall not be grounds for a time extension. Receipt of proper bonding and insurance is a condition precedent to the formation of the contract and if not timely received, may result in forfeiture of the Contractor's bid security. Work may not commence until the Owner issues a written Notice to Proceed and must commence within seven (7) working days thereafter.

ARTICLE 3. LIQUIDATED DAMAGES

Whenever time is mentioned in this contract, time shall be and is of the essence of this contract. The Owner would suffer a loss should the Contractor fail to have the work embraced in this contract fully completed on or before the time above specified. THEREFORE, the parties hereto realize in order to adjust satisfactorily the damages on account of such failure that it might be impossible to compute accurately or estimate the amount of such loss or damages which the Owner would sustain by reason of failure to complete fully said work within the time required by this contract. The Contractor hereby covenants and agrees to pay the Owner, as and for **liquidated damages, the sum of \$700** per day for each and every day, Sunday and legal holidays excepted, during which the work remains incomplete and unfinished. Any sum which may be due the Owner for such damages shall be deducted and retained by the Owner from any balance which may be due the Contractor when said work shall have been finished and accepted. But such provisions shall not release the Bond of the Contractor from liability according to its terms. In case of failure to complete, the Owner will be under no obligation to show or prove any actual or specific loss or damage.

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: \$

TOTAL CONTRACT AMOUNT: (\$CONTRACT AMOUNT)

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

For changing specified quantities of work from those indicated by the contract drawings and specifications, upon written instructions of Owner, the following unit prices shall prevail. The unit prices include all labor, overhead and profit, materials, equipment, appliances, bailing, shoring, shoring removal, etc., to cover the finished work of the several kinds of work called for. Only a single unit price shall be given and it shall apply for either MORE or LESS work than that shown on the drawings and called for in the specifications or included in the Base Bid. In the event of more or less units than so indicated or included, change orders may be issued for the increased or decreased amount.

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 |
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NOTARY INFORMATION

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| NOTARY PUBLIC EMBOSSER SEAL |
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| STATE OF |
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| COUNTY (OR CITY OF ST. LOUIS) |
|-------------------------------|

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| USE RUBBER STAMP IN CLEAR AREA BELOW |
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| SUBSCRIBED AND SWORN BEFORE ME, THIS |
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|-------------------------|
| DAY OF |
| NOTARY PUBLIC SIGNATURE |

| |
|-----------------------|
| YEAR |
| 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 EMBOSSER 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 |

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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: Keith Lesko
MONG IN-HOUSE DESIGN - FACILITIES
6819 North Boundary Rd.
Jefferson City, MO 65101
Telephone: (573) 638-9503; Fax: (573) 638-9746
Email: keith.a.lesko.nfg@mail.mil

Construction Representative/
Project Manager

Jeremy Newton
Missouri National Guard
6819 North Boundary Rd.
Jefferson City, MO 65101
Telephone: 573-619-1416; Fax: 573-638-9746
Email: jeremy.l.newton.nfg@mail.mil

Contract Specialist:

Mandy Roberson
Division of Facilities Management, Design and Construction
301 West High Street, Room 730
Jefferson City, Missouri 65102
Telephone: 573-522-0074; Fax: 573-751-7277
Email: mandy.roberson@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.

8.0 ENVIRONMENTAL MANAGEMENT SYSTEM (eMS):

The Missouri Army National Guard (MOARNG) has implemented an Environmental Management System (eMS). One of the key components of the eMS is the establishment of an Environmental Policy that must be communicated to all persons working for or on behalf of the organization including all suppliers and contractors. This policy stresses commitment to compliance with accepted environmental practices, and meeting or exceeding applicable environmental requirements, legal and otherwise. This policy also stresses commitment to waste minimization, pollution prevention, and management of personnel, processes, real property, and materials in a manner to reduce environmental impacts. The policy is available upon request to all parties by contacting the Environmental Management Office at (573) 638-9514.

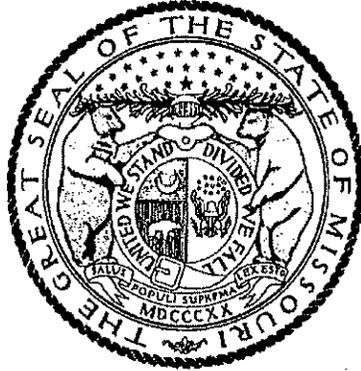
9.0 OFF-SITE BORROW & SPOIL DEPOSIT SITES FOR FEDERALLY FUNDED PROJECTS:

- A. All Federally funded projects which involve off-site borrow and/or off-site spoil deposit sites will require written certification that the site(s) are in compliance with the National Environmental Protection Act and all related applicable Federal and State laws and regulations. If the need for off-site borrow and/or spoil sites is stipulated in the Contract Documents, the following applies:
- B. The Contractor is required to use only the designated site described in the Contract Documents. If another off-site area is proposed by the Contractor, the Contractor must provide written certification to the Division of Facilities Management, Design and Construction Project Representative that the proposed borrow or spoil site has been cleared of environmental concerns in accordance with all applicable Federal and State laws and regulations. These include but are not limited to the following: Clean Water Act; the Endangered Species Act; the National Historic Preservation Act (NHPA) (The site must have Section 106 Clearance); the Farmland Protection Act; Resource Conservation and Recovery Act; Comprehensive Environmental Response; Compensation and Liability Act; and RSMo Chapter 194, Section 194.400, Unmarked Human Burial Sites. Certifications shall include clearance letters and other evidence of coordination with the appropriate regulatory agencies. The Missouri Historic Preservation Office, PO Box 176 Jefferson City, MO 65102, may be contacted to provide assistance with the NHPA and cultural resource issues pertaining to the borrow and spoil site regulations. The Missouri State Historic Preservation Office can provide a list of qualified and certified archaeologists to assist in borrow and spoil site investigations.
- C. If project conditions require off-site borrow or off-site deposit of spoils, the Contractor will be required to provide written certification to the Division of Facilities Management, Design and Construction Project Representative that the proposed borrow or spoil site has been cleared of environmental concerns in accordance with all applicable Federal and State laws and regulations. These include but are not limited to the following: Clean Water Act; the Endangered Species Act; the National Historic Preservation Act (NHPA) (The site must have Section 106 Clearance); the Farmland Protection Act; Resource Conservation and Recovery Act; Comprehensive Environmental Response; Compensation and Liability Act; and RSMo Chapter 194, Section 194.400, Unmarked Human Burial Sites. Certifications shall include clearance letters and other evidence of coordination with the appropriate regulatory agencies. The Missouri Historic Preservation Office, PO Box 176 Jefferson City, MO 65102, may be contacted to provide assistance with the NHPA and cultural resource issues pertaining to the borrow and spoil site regulations. The Missouri State Historic Preservation Office can provide a list of qualified and certified archaeologists to assist in borrow and spoil site investigations.
- D. The Owner recognizes that additional time (beyond what is allowed in the Construction Contract) may be required in order to secure the aforementioned certifications and approvals. Should more time be required, the Owner will consider approval of a no-cost time extension contract change. The Contractor will be required to provide documentation that substantiates the need for the time extension.

Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

Annual Wage Order No. 26

Section 085
PULASKI 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

| OCCUPATIONAL TITLE | ** Date of Increase | Basic Hourly Rates |
|------------------------------|---------------------|--------------------|
| Asbestos Worker | | \$37.38 |
| Boilermaker | | \$21.94* |
| Bricklayer | | \$48.71 |
| Carpenter | | \$54.20 |
| Lather | | |
| Linoeum Layer | | |
| Millwright | | |
| Pile Driver | | |
| Cement Mason | | \$21.94* |
| Plasterer | | |
| Communications Technician | | \$46.95 |
| Electrician (Inside Wireman) | | \$47.62 |
| Electrician Outside Lineman | | \$21.94* |
| Lineman Operator | | |
| Lineman - Tree Trimmer | | |
| Groundman | | |
| Groundman - Tree Trimmer | | |
| Elevator Constructor | | \$21.94* |
| Glazier | | \$39.91 |
| Ironworker | | \$21.94* |
| Laborer | | \$40.60 |
| General Laborer | | |
| First Semi-Skilled | | |
| Second Semi-Skilled | | |
| Mason | | \$21.94* |
| Marble Mason | | |
| Marble Finisher | | |
| Terrazzo Worker | | |
| Terrazzo Finisher | | |
| Tile Setter | | |
| Tile Finisher | | |
| Operating Engineer | | \$21.94* |
| Group I | | |
| Group II | | |
| Group III | | |
| Group III-A | | |
| Group IV | | |
| Group V | | |
| Painter | | \$41.37 |
| Plumber | | \$60.85 |
| Pipe Fitter | | |
| Roofer | | \$46.42 |
| Sheet Metal Worker | | \$61.96 |
| Sprinkler Fitter | | \$21.94* |
| Truck Driver | | \$21.94* |
| 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.

Heavy Construction Rates for
PULASKI County

Section 085

| OCCUPATIONAL TITLE | ** Date of Increase | Basic Hourly Rates |
|-------------------------------|---------------------|--------------------|
| Carpenter | | \$21.94* |
| Millwright | | |
| Pile Driver | | |
| Electrician (Outside Lineman) | | \$21.94* |
| Lineman Operator | | |
| Lineman - Tree Trimmer | | |
| Groundman | | |
| Groundman - Tree Trimmer | | |
| Laborer | | \$43.03 |
| General Laborer | | |
| Skilled Laborer | | |
| Operating Engineer | | \$56.08 |
| Group I | | |
| Group II | | |
| Group III | | |
| Group IV | | \$21.94* |
| Truck Driver | | |
| 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 **demolition and installation of windows. FORT LEONARD WOOD Building 1029 at St. Robert, Missouri.**
 - 1. Project Location: **FORT LEONARD WOOD BUILDING 1029, ST. ROBERT, MISSOURI.**
 - 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 **04/13/2020** were prepared for the Project by **Missouri National Guard – Facilities Division.**
- C. The Work consists of **window replacement.**
 - 1. The Work includes but not limited to, **demolition work for new window installation and installation of new windows.**
- D. The Work will be constructed under a single prime contract.

1.3 DESIGNER'S ESTIMATE OF CONSTRUCTION COST RANGE

- A. The project designer has prepared a cost estimate range of \$ 380,000.00 – 522,500.00

1.4 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..

1.5 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

SECTION 012100 – ALLOWANCES

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 and procedural requirements governing allowances.
 - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Contract Change.
- B. Types of allowances include the following:
 - 1. Weather allowances.
- C. Related Sections include the following:
 - 1. Division 1 Section "Contract Modification Procedures" for procedures for submitting and handling Contract Changes for allowances.

1.3 WEATHER ALLOWANCE

- A. Included within the completion period for this project are a specified number of “bad weather” days (see Schedule of Allowances).
- B. The Contractor’s progress schedule shall clearly indicate the bad weather day allowance as an “activity” or “activities”. In the event weather conditions preclude performance of critical work activities for 50% or more of the Contractor’s scheduled workday, that day shall be declared unavailable for work due to weather (a “bad weather” day) and charged against the above allowance. Critical work activities will be determined by review of the Contractor’s current progress schedule.
- C. The Contractor’s Representative and the Construction Representative shall agree monthly on the number of “bad weather” days to be charged against the allowance. This determination will be documented in writing and be signed by the Contractor and the Construction Representatives. If there is a failure to agree on all or part of the “bad weather” days for a particular month, that disagreement shall be noted on this written document and signed by each party’s representative. Failure of the Contractor’s representative to sign the “bad weather” day documentation after it is presented, with or without the notes of disagreement, shall constitute agreement with the “bad weather” day determination contained in that document.
- D. There will be no modification to the time of contract performance due solely to the failure to deplete the “bad weather” day allowance.

- E. Once this allowance is depleted, a no cost Contract Change time extension will be executed for “bad weather” days, as defined above, encountered during the remainder of the Project.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALLOWANCES

- A. Weather Allowance: Included within the completion period for this Project **Ten (10)** “bad weather” days.

END OF SECTION 012100

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 1, Section 012100 "Allowances" for procedural requirements for handling and processing Allowances.
 - 2. Division 0, Section 007213, Article 3.1 "Acceptable Substitutions" for administrative procedures for handling Requests for Substitutions made after Contract award.
 - 3. 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 01 31 00
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. 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 – SCHEDULES

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 including Schedule of Values 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 013300 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 quantity 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 |
| 007213 | Construction Schedule | | | X | | | | | | | | | |
| 007213 | Schedule of Values | | | X | | | | | | | | | |
| 013300 | Construction Photos | | | | | | | | | X | | | |
| 017419 | Waste Management & Disposal | | | X | X | | | X | | X | | | |
| 079200 | Joint Sealants | | X | X | | | | | | | | | |
| 085113 | Aluminum Windows | X | X | | | | X | | | | X | | X |
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END OF SECTION 013300

SECTION 013513.28 – SITE SECURITY AND HEALTH REQUIREMENTS

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.

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.
- D. All construction personnel shall visibly display issued identification cards.
- E. All Construction personnel shall be identified to the Facility Representative and shall be issued contractor badges from Fort Leonard Wood. Procedures for receiving badges are on the Fort Leonard Wood web page at: <https://vcc1.icmvcc.com/im3500/Registration.aspx> Contractors are to receive badges prior to commencing work.
- F. Pre-Bid Meeting Site Access as follows:

Accessing Fort Leonard Wood following the REAL ID Act of 2005

Effective immediately 11 January 2016, Fort Leonard Wood can no longer accept for access purposes the following state issued driver licenses (DLs) that do not meet the

standards of the REAL ID Act of 2005: **Illinois, Minnesota, Missouri, New Mexico and Washington.** Individual(s) requesting access with one of the above state DLs will also need to present along with the non-compliant DL one of the documents below to prove identity in order to be vetted and issued an installation pass.

- United States Passport or United States Passport Card
- Certified Copy of Birth Certificate
- Social Security Card
- Permanent Resident Card/Alien Registration Receipt Card (Form I-551)
- Foreign passport with a temporary (I-551) stamp or temporary (I-551) printed notation on a machine readable immigrant visa
- Employment authorization document that contains a photograph (Form I-766)
- Foreign passport with Form I-94 or Form I-94A bearing same name as passport and containing an endorsement of the alien's nonimmigrant status, as long as the endorsement has not expired and proposed employment is not in conflict with restrictions or limitations identified on the form.
- School identification card with photograph
- U.S. Military or draft record (Certified Copy of DD Form 214)
- U.S. Coast Guard Merchant Mariner Card
- Transportation Worker Identification Card (TWIC)
- Native American Tribal Document

- G. Visitor(s) requesting access without a REAL ID Act compliant form of identification or cannot provide supplemental identity proofing documents as listed above, must be escorted by a DOD credentialed person at all times while on the installation. All persons requesting unescorted access will continue to be vetted through the National Crime Information Center, prior to being issued an installation pass.

3.2 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. Alcoholic beverages or illegal substances shall not be brought upon the Facility premises. The Contractor's workers shall not be under the influence of any intoxicating substances while on the Facility premises.

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 DISRUPTION OF UTILITIES

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

END OF SECTION 013513.28

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. Support facilities include, but are not limited to, the following:
 - 1. Waste disposal services
 - 2. Construction aids and miscellaneous services and facilities
- C. Security and protection facilities include, but are not limited to, to following:
 - 1. Barricades, warning signs, and lights
 - 2. Sidewalk bridge or enclosure fence for the site
 - 3. 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. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.
- B. 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 signs and directory boards, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sized and thicknesses indicated.
 - 2. For fences and vision barriers, provide minimum 3/9" (9.5mm) thick exterior plywood.
 - 3. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8" (16mm) thick exterior plywood.
- C. Gypsum Wallboard: Provide gypsum wallboard on interior walls of temporary offices.
- D. Roofing Materials: Provide UL Class A standard-weight asphalt shingles or UL Class C mineral-surfaced roll roofing on roofs of job-built temporary office, shops, and shed.
- E. Paint: Comply with requirements of Division 9 Section "Painting".
 - 1. For job-built temporary offices, shops, sheds, fences, and other exposed lumber and plywood, provide exterior-grade acrylic-latex emulsion over exterior primer.
 - 2. For sign panels and applying graphics, provide exterior-grade alkyd gloss enamel over exterior primer.
 - 3. For interior walls of temporary offices, provide two (2) quarts interior latex-flat wall paint.
- F. 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.
- G. Water: Provide potable water approved by local health authorities.
- H. Open-Mesh Fencing: Provide 0.120" (3mm) thick, galvanized 2" (50mm) chainlink fabric fencing 6' (2m) high with galvanized steel pipe posts, 1½" (38mm) ID for line posts and 2½" (64mm) ID for corner posts.

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 Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110 to 120V plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.
- D. 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.
- E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixture where exposed to moisture.
- F. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.
- G. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows, and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.
- H. Temporary Toilet Units: Provide self-contained, single-occupant toilet units of the chemical, aerated re-circulation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- I. 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 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. Storage Facilities: Limited areas for storage of building materials are available onsite. The Contractor shall provide his own security. Specific locations for storage and craning operations will be discussed at the Pre-Construction Meeting.
- C. Construction Parking: Parking at the site will be provided in the areas designated at the Pre-Construction Meeting.
- D. Construction Parking: Contractors must be prepared to discuss their storage and parking needs at the Pre-Construction Meeting. Under no circumstances will any vehicle be parked in a fire lane. Parking on lawns shall be prohibited.
- E. 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. Where temporary wood or plywood enclosure exceeds 100SqFt (9.2SqM) in area, use UL-labeled, fire-retardant-treated material for framing and main sheathing.
- F. 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.
- G. Project Identification and Temporary Signs: Prepare project identification and other signs of size indicated. Install signs where indicated to inform the public and persons seeking entrance to the Project. Support on posts or framing of preservative-treated wood or steel. Do not permit installation of unauthorized signs.
 - 1. Project Identification Signs: Engage an experienced sign painter to apply graphics. Comply with details indicated.
 - 2. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.
- 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.

3.2 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. 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.
- B. 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.
- C. 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.

3.3 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

SECTION 01 74 00

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** each month, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.
 - 4. Provide adequate storage for all items awaiting removal from the job site, 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 on the site. 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 structure 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 materials, clean the area daily while work is being performed in the space in which 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 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 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 and similar spaces.
 8. Broom clean concrete floors in unoccupied spaces.
 9. Clean transparent material, including 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. Remove labels that are not permanent labels.
 10. 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.

11. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 12. 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 01 74 00

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

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. This Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous **demolition and construction** waste.
 - 2. Recycling nonhazardous **demolition and construction** waste.
 - 3. Disposing of nonhazardous **demolition and construction** waste.
- B. Related Sections include the following:
 - 1. Division 01 Section "Multiple Contract Summary" for coordination of responsibilities for waste management.
 - 2. Division 01 Section "Temporary Facilities and Controls" for environmental-protection measures during construction, **and location of waste containers at Project site.**
 - 3. Division 02 Section "Structure Demolition" for disposition of waste resulting from demolition of buildings, structures, and site improvements, **and for disposition of hazardous waste.**
 - 4. Division 02 Section "Selective Structure Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements, **and for disposition of hazardous waste.**
 - 5. Division 04 Section "Unit Masonry" for disposal requirements for masonry waste.
 - 6. Division 04 Section "Stone Masonry" for disposal requirements for excess stone and stone waste.
 - 7. Division 31 Section "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council. Waste management coordinator may also serve as LEED coordinator.
- B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- C. Regulatory Requirements: Comply with hauling and disposal regulations of federal, state, tribal and local authorities having jurisdiction.
- D. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:
 1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
 2. Review requirements for documenting quantities of each type of waste and its disposition.
 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 5. Review waste management requirements for each trade.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 DISPOSAL OF WASTE

- A. General: Presidential Executive Order 13514 "Federal Leadership in Environmental, Energy, and Economic Performance", 8 October, 2009 requires the diversion of at least 50%, by weight of all construction and demolition materials and debris by the end of

fiscal year 2015. Therefore, the contractor shall make all reasonable efforts to recycle and recover Construction and Demolition (C&D) waste from this project. Records shall be maintained to document the quantity of waste generated, the quantity of waste diverted through sale, reuse, or recycling, and the quantity of waste disposed of by landfill or incineration.

1. All records must be provided to the project manager upon project completion.
- B. Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- C. Burning: Do not burn waste materials.
- D. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 01 74 19

SECTION 02 31 26A - ABATEMENT SUMMARY

1.0 WORK COVERED BY ABATEMENT ACTIVITIES

- A. Project Identification: Removal of asbestos containing floor tile, floor tile mastic, pipe insulation, ceiling texture and transite panels throughout Fort Leonard Wood Building 1029 that will be impacted during future renovations.
 - 1. Project Location: 13334 Artillery Circle – Building 1029, Fort Leonard Wood, Missouri 65473.
 - 2. Project Coordinator: Mr. Jeremy Newton, Missouri Army National Guard
 - 3. Owners Representatives: Brian Lieb, SCI Engineering, Inc.

- B. The work consists of removal and off-site disposal of existing materials as follows:
 - a. Asbestos
 - a. Remove and dispose of approximately 221 asbestos containing transite panels located on the exterior of the structure. The transite panels shall be removed using non-friable intact methods.

- C. Additional Project Specifications:
 - 1. The Contractor will be responsible for all damage to the building contents during the renovation period. At a minimum, dust barriers shall be installed to prevent dust from exiting the work areas. At a minimum, a limited containment (i.e. critical barriers and negative pressure environment) shall be established prior to abatement.
 - 2. Air sampling will periodically be performed, by others, during renovation and asbestos abatement activities. Any deficiencies identified during clearance activities will be corrected by the Contractor at no additional cost to the owner and/or their representatives.
 - 3. The Contractor should perform abatement activities in accordance with all federal, state, and local regulations. Proper notifications shall be given to the Missouri Department of Natural Resources for the asbestos abatement activities.
 - 4. Lead-based paint is present within the stairwells and basement work area and should not be disturbed during renovation activities. Refer to SCI's report for locations of lead-based paint systems (Exhibit A). During abatement activities LBP systems should not be sanded, grinded or otherwise abraded in any way.
 - 5. The Contractor should make themselves aware of site conditions and are responsible for verifying all quantities. The estimated quantities noted herewith are for information purposes only. The Contractor is responsible for all work associated with the designated areas noted on the bid documents and field measuring existing conditions for exact quantities prior to submission of their proposal. Should observed field conditions differ from contract documents or plans, the bidder should submit a written request for clarification.
 - 6. Work areas that include asbestos abatement must pass final clearance (0.01 fibers/cubic centimeter) air sampling to be considered complete. Air sampling activities will be performed by a third party (SCI).

1.1 WORK SEQUENCE

A. Work Schedule:

1. Work should begin as soon as the applicable project notification period has lapsed. All abatement activities, including final clearance, teardown and demobilization, must be completed within a schedule that compliments the overall project timeline. The contractor will be responsible for working as many shifts and days necessary to complete the project by the deadline. A final project closeout package, including all waste disposal documentation, should be delivered to the owner and/or owner's representative within 30 days of the of the abatement activities being completed.

END OF SECTION 02 31 26A

SECTION 02 31 26B –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, licensed and registered persons/firms 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 transite panels from the Fort Leonard Wood Building 1029 that will be impacted during future renovations, per the site drawings.
- D. All asbestos abatement work areas must pass visual inspection as well as final clearance air-monitoring, when necessary (by independent TPAM).
- E. Construction Administrator: Jeremy Newton, Missouri Army National Guard

1.2 LIST OF MATERIALS CONTAINING ASBESTOS (TO BE ABATED)

Table 1 – FLW Building 1029 – Alternative Bid #2

| Material | Asbestos Content | Location & Total Quantity |
|----------------|-------------------|---------------------------|
| Transite Panel | 25-30% Chrysotile | Exterior, 221 panels |

Contractor is responsible for verifying all materials and quantities identified above prior to submitting their bid. The *Asbestos Survey Activities* report is included as Appendix A to the 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 (1) 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 (1%) 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. Construction Administrator: 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 (6) mil transparent polyethylene or polyvinyl chloride plastic. This device consists of two (2) 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. MoDNR: Missouri Department of Natural Resources
4. DEQ: Division of Environmental Quality, MoDNR
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 - ASBESTOS

- 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:
 - a. Regardless of the removal methods employed, the contractor shall immediately stop work in the event of any of the following:
 - 1) Visible Emissions (as defined in this document), or
 - 2) sanding, grinding, cutting abrading, removal by open flame, or
 - 3) Breathing Zone air samples exceed the PEL or Excursion Limit; furthermore, the contractor shall implement corrective work practices upon the approval of the Air Sampling Professional, 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.
 - b. If any of the conditions in subparagraph a above are observed by the Construction Administrator 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. FRIABLE ACM (CONSIDERED RACM). This scope of work includes the removal of Friable ACM and therefore all applicable federal, state, and local requirements, including notifications, should be followed.
 - 1. Make notifications in compliance with Section 3.1 of this specification.
 - 2. The ceiling texture and pipe insulation are considered friable asbestos. Remove and dispose of all friable asbestos containing materials in compliance with the federal and state regulations as listed but not necessarily limited to those under section 4.0 of this specification.

1.5 PROJECT COORDINATION

- A. Contractor shall coordinate and schedule all phases of the work of the contract documents under his control with the Construction Administrator, 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 Construction Administrator 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 Construction Administrator approve the modification as addressed in the Special Conditions.
- D. Contractor shall coordinate any news media inquiries or releases with 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 Construction Administrator will schedule the pre-construction meeting after the Notice of Award has been issued. The Construction Administrator will determine the date, time, and exact place of this meeting and all necessary parties will be notified. During the meeting, discussions will be held in regard to construction procedures, scheduling requirements, general conditions, special conditions, channels of communication, responsible persons, requirement's 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 Construction Administrator, 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 - ADDITIONAL INFORMATION/REQUIREMENTS

- A. The work areas will have power and light available. The contractor will be responsible for providing additional lighting/power, as needed.
- B. The Construction Administration will be provided the preferred route for the load out of the materials.

PART 3 - EXECUTION

3.1 NOTIFICATIONS

- A. Based on the fact that material being removed amounts to more than 260 LF or 160 SF, notification shall be completed and sent by the contractor no less than ten (10) days before the intended starting date of the project. Use the EPA form "Notification of Demolition and Renovation" and the MoDNR form "Asbestos Project Notification", notification must be made to all applicable federal, state and local agencies, including but not limited to the following:
 - 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 Construction Administrator, with the Facilities Management Design and Construction Division, as well as to SCI Engineering, Inc.
 - 3. A Post-Notification report shall be completed and sent by the Contractor to the appropriate agency listed in 3.1A above within forty-five (45) days of the completion of the project. The MDNR form "Asbestos Post Notification" is to be used for that purpose.

3.2 SUBMITTALS

- A. The following submittals will be required of the contractor prior to commencement of work and are subject to approval by the Construction Administrator. The contractor shall send one copy of the submittals for approval and then send approved copies of the submittals to the distribution list as discussed at the Pre-Construction Conference.
 - 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 notifications to regulatory agencies as required in Section 3.1 of this specification.
 - 3. Current training certificates and MoDNR 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. 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 Construction Administrator.

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; and
 - 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 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. MoDNR "Asbestos Post Notification" form, within thirty (30) days of the completion of the project.
5. Any other specific requirements spelled out in the General Conditions.

3.3 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.

3.4 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. The contractor will have the owner's assistance in notifying building occupants of impending activity and enforcement of restricted access by owner's employees, however the contractor

will be responsible for any breaches in containment or losses due to the work area not be adequately secured.

- D. The contractor shall keep, as a minimum, two 10 lbs. 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.**

3.5 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 the requirements of OSHA regulations for Personal Monitoring.
- C. All workers are to be trained in the dangers inherent in handling asbestos, breathing asbestos dust, and in proper work procedures and personal and protective measures.

3.6 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.

3.7 THIRD PARTY AIR MONITORING (Asbestos)

- A. The Owner will contract with an Air Sampling Professional to perform the following minimum duties:
 - 1. Review Contractor's work plan and provide his recommendations.
 - 2. As a minimum, during abatement operations, at least three samples daily shall be collected outside the work area at locations of barriers separating the work areas from other portions of the building. One sample shall be required at the decontamination entrance to the area. As a minimum, during exterior abatement operations, at least two samples daily shall be collected outdoors. 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 Construction Administrator and cause operations to cease and corrective measures be taken.
 - 3. Provide Construction Administrator 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 prior to clearance.
 - 5. Certify that the contractor's procedures, methods, and practices were in full compliance with current federal or state regulations, using the Appendix A form "TPAM Statement of Compliance".
- B. The TPAM must be independent from the abatement contractor.

3.8 SUPERINTENDENCE OF ABATEMENT (Asbestos)

- 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 during the work hours stated on the notification form.
 - 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.

3.9 FINAL CLEARANCE REQUIREMENTS (Asbestos)

- A. All critical barriers and/or containment must remain in place until work area is cleared by TPAM and Construction Manager 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.
- C. Following the completion of the abatement work, the abatement superintendent shall notify the Construction Administrator. 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 abatement has been completed.

- D. Aggressive air sampling shall be performed by the TPAM in areas where flooring materials will be abated. In-progress/area samples will be used as clearance samples where glove bag removal is performed.
- E. 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 work space (or one per room which ever is greater), 1 field blank and 1 sealed blank. The abatement shall be considered complete when the result of each of 5 inside clearance samples indicate airborne fiber (> 0.25 um dia. x 5 um 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.

- F. **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.**

3.10 RE-ESTABLISHMENT OF THE WORK AREA AND SYSTEMS (Asbestos)

- A. Re-establishment of the work area shall only occur after the contractor has complied with the clearance requirements of Section 3.9. Upon clearance, and prior to the removal of barriers, an encapsulant shall be applied by the contractor. 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.

3.11 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.

3.12 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.

4.0 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 02 31 26B

SECTION 079200 - JOINT SEALANTS

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. Urethane joint sealants.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
- B. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.
- D. Field-Adhesion Test Reports: For each sealant application tested.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.
- C. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

2. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

1.6 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 1. Architectural Sealants: 250 g/L.
 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 3. Sealant Primers for Porous Substrates: 775 g/L.
- C. 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.
- D. Colors of Exposed Joint Sealants: As selected by Consultant from manufacturer's full range.

2.2 URETHANE JOINT SEALANTS

- A. Single-Component, Nonsag, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolastic NP1.
 - b. Pecora Corporation; Dynatrol I-XL.

- c. Tremco Incorporated; Vulkem 116.

2.3 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type O (open-cell material, Type B (bicellular material with a surface skin)) [or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 3. 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. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
- 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.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. 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.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. 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.
- F. 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.
 4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
 5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.
 - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 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 2 tests for the first 1000 feet 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.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 3. Inspect tested joints and report on the following:
 - a. Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.
 - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
 4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints

were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.

5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

- B. Evaluation of Field-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.

3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 079200

SECTION 08 51 13 - ALUMINUM WINDOWS

GENERAL

1.1 SUMMARY

A. Section Includes:

1. Operating and Fixed Aluminum Window Units
 - a. Single Hung Aluminum Windows.

B. Related Sections:

1. Section 07 92 00 - Joint Sealants

1.2 REFERENCES

A. Aluminum Association (AA)

1. DAF-45 – “Designation System for Aluminum Finishes”

B. American Architectural Manufacturers Association (AAMA):

1. 101 – “Voluntary Performance Specification for Windows, Skylights and Glass Doors”
2. 502 – “Voluntary Specification for Field Testing of Newly Installed Fenestration Products”
3. 611 – “Voluntary Specification for Anodized Architectural Aluminum”
4. 1503 – “Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections”
5. 2400 – “Voluntary Specification for Installation of Windows with a Mounting Flange in Stud Frame Construction”
6. 2604 – “Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels”
7. 2605 – “Voluntary Specification, Performance Requirements and Test Procedures for Superior Performance Organic Coatings on Aluminum Extrusions and Panels”

8. CW-10 – “Care and Handling of Architectural Aluminum from Shop to Site”

C. American National Standards Institute (ANSI) Publications

1. Z97.1 – “Performance Specifications and Methods of Test for Safety Glazing Materials Used in Buildings”

D. ASTM International (ASTM) Publications:

1. C518 – “Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus”
2. C1036 – “Standard Specifications for Flat Glass”
3. C1048 – “Standard Specifications for Heat-Treated Flat Glass – Kind HS, Kind FT Coated and Uncoated Glass”
4. D3985 – “Standard Test Method for Oxygen Gas Transmission Rate Through Plastic Film and Sheeting Using a Coulometric Sensor”
5. E90 – “Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements”
6. E283 – “Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen”
7. E330 – “Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors By Uniform Static Air Pressure Difference”
8. E331 – “Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors By Uniform Static Air Pressure Difference”
9. E413 – “Classification for Rating Sound Insulation”
10. E547 – “Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Differential”
11. E774 – “Standard Specification for Sealed Insulating Glass Units”
12. E1886 – “Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials”

13. E1996 - "Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes"
 14. F588 - "Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact"
 15. F1249 – "Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor"
- E. Glass Association of North America (GANA):
1. "GANA Glazing Manual"
- F. Federal Specifications (FS) Publications:
1. FS-RR-W-365A "Wire Fabric (Insect Screening)"
- G. Insulating Glass Certification Council (IGCC)
- H. Insulating Glass Manufacturers Alliance (IGMA) Publications:
1. Glazing Guidelines
- I. National Fenestration Ratings Council (NFRC)
- J. Screen Manufacturers Association (SMA) Publications:
1. 1004 "Specifications for Aluminum Tubular Frame Screens for Windows"
- K. U.S. Consumer Product Safety Commission (CPSC) Publications:
1. 16 CFR Part 1201 "Safety Standard For Architectural Glazing Materials"
- L. Window and Door Manufacturers Association (WDMA) Publications:
1. ANSI/AAMA/WDMA 101/I.S.2/NAFS-02 "Voluntary Performance Specification for Windows, Skylights and Glass Doors"
 2. AAMA/AAMA/WDMA/CSA 101/I.S.2/A440 "Standard/Specification for Windows, Doors and Unit Skylights"

1.3 SUBMITTALS

- A. Submit "Letter of Conformance" – with the following supporting data:

1. Product data for each type of aluminum window specified, including standard construction details, dimensions of individual components, profiles, finishes, hardware, and accessories.
2. Shop drawings for each type of window specified, including ¼-inch scale wall elevations, typical unit elevations at ¾-inch scale details, full size details of typical composite members and the following:
 - a. Flashing and drainage details.
 - b. Joinery details.
3. Samples: Provide full-size or partial-size sample of window illustrating glazing system, quality of construction and finish.
4. Product certificates signed by the window manufacturer certifying that window units comply with specified performance requirements.
5. Submit certified independent laboratory test reports verifying compliance with all test requirements of 1.05 PERFORMANCE REQUIREMENTS as requested by Architect.

1.4 DEFINITIONS

- A. Performance grade number, included as part of the AAMA/WDMA/CSA 101/I.S.2/A440 product designation code, is actual design pressure in pounds force per square foot used to determine structural test pressure and water test pressure.

1.5 PERFORMANCE REQUIREMENTS

- A. Certify that windows have been tested in accordance with American Architectural Manufacturers Association (AAMA/WDMA) Specification for Performance Class specified complying with the following performance standards:
 1. AAMA/WDMA/CSA 101/I.S.2/A440 Performance Requirements: Provide aluminum windows of the performance class and grade indicated that comply with AAMA/WDMA/CSA 101/I.S.2/A440.
 - a. Performance Class: HS-CW
 - b. Performance Grade: 50

2. Uniform Structural Properties (ASTM E330): Pressure acting inward and outward. Window to be operable with permanent deformation at a maximum of 1/175 of its span, when tested at a static air pressure difference of the following:
 - a. Class HS-CW-50: 75.0 PSF
3. Water Resistance (ASTM E331 and ASTM E547): No water penetration at test pressure indicated.
 - a. Class HS-CW-50: 7.50 PSF
4. Air Leakage (ASTM E283):
 - a. Single Hung Windows: Maximum 0.3 CFM per sq./ft. of total exterior surface area, when tested at a static air pressure differential of 1.6 PSF minimum.
 - b. Fixed Windows: Maximum 0.3 CFM per sq./ft. of total exterior surface area, when tested at a static air pressure differential of 1.6 PSF minimum.

B. Project Wind Loads:

1. The system shall be designed to withstand the following loads with respect to the plane of the wall:
 - a. Positive pressure of 30 p.s.f. at non corner zones.
 - b. Negative pressure of 30 p.s.f. at non corner zones.

1.6 QUALITY ASSURANCE

A. All window units shall be manufactured by a single source.

1. All windows in any one project must be by the same manufacturer and with comparable frame depth, profile, glazing bite, and installation requirements. Manufacturer must provide a window system that can incorporate all window configurations used on the project.
2. Standards: Requirements for aluminum windows, terminology and standard of performance, and fabrication workmanship are those specified

and recommended in AAMA/WDMA/CSA 101/I.S.2/A440 and The Aluminum Association (AA).

- a. All window units shall be labeled as conforming to AAMA/WDMA/CSA 101/I.S.2/A440. The label shall state the name of the manufacturer, the approved labeling agency and the product designation as specified in AAMA/WDMA/CSA 101/I.S.2/A440.
- b. All testing shall be conducted using AAMA/WDMA/CSA 101/I.S.2/A440 Gateway Performance minimum specified test sizes.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Transportation and Handling: Transport products by methods to avoid product damage, deliver in undamaged condition in manufacturer's unopened containers or packaging. Provide equipment and personnel to handle products by method to prevent soiling or damage. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- B. Storage and Protection: Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain with temperature and humidity ranges required by manufacturer's instruction.

1.8 WARRANTIES

A. Aluminum Window Warranty

1. Products: Submit a written warranty, executed by the window manufacturer, for the following:
 - a. Framing, sash components, and hardware: A period of (1) year from the date of manufacture, against defective materials and workmanship, including substantial non-compliance with applicable specification requirements and industry standards, which results in premature failure of the windows or parts, outside of normal wear.
 - b. Insulated glass units: A period of (10) years from the date of manufacture, against insulated glass seal failure unrelated to glass breakage.

- c. In the event windows or components are found defective, manufacturer will repair or provide replacements without charge at manufacturer's option.
 - d. Where applicable, materials which are applied to the face of insulated glass for the purpose of simulating division in glass openings (SDL's) are warranted against detaching from the glass surface for a period of (5) years.
 - e. Finish: Refer to Part 2, Section 2.06 "FINISHES" for warranty requirements.
 - f. 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 (1) year 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 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

2.1 MANUFACTURERS

A. Approved Manufacturers:

- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Quaker Windows & Doors, T300 Series or a comparable product by one of the following manufacturers:
 - a. EFCO Corporation
 - b. Boyd Aluminum

2.2 MATERIALS

A. Aluminum Members:

1. Extruded aluminum prime billet 6063-T6 alloy for primary components, 6063-T6, or 6061-T6 for structural components, all in accordance with (ASTM B221).

B. Structural Thermal Barrier Construction:

1. Frame and sash members shall include a structural thermal barrier, applied in the manufacturer's facility, using concealed low-conductance poured-in-place polyurethane in a pre-treated cavity.
2. After proper curing, the aluminum bridge section must be removed to provide a 1/2" minimum separation between interior and exterior metal surfaces on the main frame, and a 3/8" minimum separation between interior and exterior metal surfaces on sashes.
3. The thermal barrier cavity shall have a manufactured mechanical lock applied consisting of abrading or lancing of the extrusion cavity prior to application of poured-in-place polyurethane.
4. Thermal Break Performance Requirements:
 - a. Shear strength: minimum 2,500 Lbf in accordance with (AAMA TIR-A8).
 - b. Flexural strength: minimum 19,000 psi in accordance with (AAMA_D 790).
 - c. Thermal conductivity of barrier material: maximum 0.84 BTU-in/(hr-ft²-°F) in accordance with (ASTM C 518).
 - d. Systems employing non-structural thermal barriers, or barrier systems absent of a mechanical lock application are not acceptable.

2.3 MANUFACTURED UNITS

- A. Principal window frame members shall have a minimum 0.062" wall thickness, which includes all hardware mounting webs, and sectional flanges.
- B. Window frame depth shall be 3 1/4" minimum.
- C. Sash Removal: Operable sash shall be removable from interior .
- D. Glazing: Refer to Section 2.05 "GLASS MATERIALS".

2.4 COMPONENTS

- A. All fasteners, tools, equipment, and other materials necessary for a complete installation shall be furnished by the Contractor.
 - 1. Aluminum, nonmagnetic stainless steel, epoxy adhesive, or other materials warranted by the manufacturer to be noncorrosive and compatible with all window members, cladding, trim, hardware, anchors, and other components.
- B. Locking handles, cases, and strikes to be die cast or stainless steel.
- C. Thermoplastic or thermo-set plastic caps, housings, and other components to be injection-molded nylon, extruded PVC, or other suitable compound.
- D. Hardware:
 - 1. Sash Lock shall be extruded aluminum, spring loaded, and shall latch automatically upon closing the sash, located at jamb of operable sash.
 - 2. Sash pull handles shall be extruded, and integral with the side rail of each sash, and continuous.
 - 3. Operating hardware shall consist of brass rollers with stainless steel axle pins.
- E. Insect Screens: Provide removable insect screen panel for each movable glazed sash.
 - 1. Screen Fabric: Aluminum: 18 by 16 mesh of 0.013" diameter wire. Comply with FS-RRW-365, Type VII, except black anodized or "gun metal" coating on wire.
 - 2. Screen Frame: Provide formed or extruded aluminum frames and removable vinyl fabric retainer spline.
 - a. Finish shall match window.
 - 3. Half Screen: Screen frame shall sized to fit one sash, and shall have mobility to slide from side to side.
- F. Accessories:
 - 1. Receptor System / Subframe:

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- a. Provide extruded aluminum, thermally broken Receptor System with Aluminum Windows by Window Manufacturer in accordance with (ASTM B221), as shown on Drawings.
- b. Finish of Receptor System components shall comply with Section 2.06 "FINISHES", and color shall match Aluminum Windows.

2.5 GLASS MATERIALS:

- A. Coated Low Emissivity Glass: Type 1 (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), with coating type and performance characteristics complying with requirements specified below:
 1. Low E Coating: Surface #2 on insulated units.
- B. Tempered Glass: Condition A (uncoated surfaces), Type 1 (transparent glass, flat), Class 1 (clear), Quality q3, clear, fully tempered safety glass (meet requirements of ANSI Z97.1).
 1. All tempered glass shall conform to ASTM C1048, ANSI Z97.1, and CPSC 16 CFR Part 1201. Tempered glass shall bear permanent monogram indicating tempered quality. Fabrication marks on tempered glass shall be located to be concealed in completed installation.
- D. Insulating Glass: Manufacturer's standard units that comply with specified quality standards and coatings.
 - a. Provide preassembled units consisting of organically sealed panes of glass enclosing a hermetically sealed dehydrated air space and complying with ASTM E774 for performance classification indicated as well as with other requirements specified for glass characteristics, air space, sealing system, sealant, space material, and desiccants.
 - 1) Total Thickness: 1"
 - b. Insulated Unit Sealing System:
 - 1) Thermal conductivity of insulated glass spacer shall perform in accordance to the following:
 - a) Silicone: 0.202 BTU/hr-ft-F (0.350 W/m-K)
 - b) PIB 0.089 BTU/hr-ft-F (0.155 W/m-K)

- c) Desiccant (loose fill): 0.017 BTU/hr-ft-F (0.030 W/m-K)
 - d) Spacer: 8.197 BTU/hr-ft-F (14.187 W/m-K)
- 2) Insulated glass unit spacer system must include a secondary dual seal. This also applied to solid foam warm edge seal glass spacer systems.

2.6 FINISHES

A. Finish of Aluminum Components

1. Finish of all exposed areas of aluminum windows and components shall be applied in accordance with the appropriate AAMA Voluntary Guide Specification shown below:
 - a. Superior Performance Organic Powder Coating conforming to (AAMA 2605), Voluntary Specification, Performance Requirements and Test Procedures which also meets the following standards:
 - 1) Powder Coating resin shall consist of Fluoroethylene Vinyl Ether (FEVE).
 - 2) Coatings which require a chrome based liquid primer or pretreatment are not allowed.
 - 3) Scratch resistance shall meet or exceed a pencil test of H in accordance with (ASTM D3363-00), "Standard Test Method for Film Hardness by Pencil Test".
 - 4) Abrasion resistance shall meet or exceed a Taber abrasion test of 1000 rotations in accordance with (ASTM D4060-14), "Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser".
 - b. Finish Warranty Period: 15 years from date of manufacture
 - c. Color Selection: Per Architect selected from manufacturers full range of standard colors

2.7 FABRICATION

- A. Fabricate windows allowing for minimum clearances and shim spacing around perimeter of assembly, yet enabling installation.

- B. Rigidly fit joints and corners. Accurately fit and secure corners tight. Make corner joints flush, hairline, and weatherproof. Seal corner joints with sealant.
- C. Develop drainage holes with moisture pattern to exterior.
- D. Prepare components to receive anchor devices. Fabricate anchorage items.

PART 3 EXECUTION

3.1 EXAMINATION

A. Site Verification of Conditions:

1. Verify that building substrates permit installation of windows according to the manufacturer's instructions, approved shop drawings, calculations and contract documents.
2. Do not install windows until unsatisfactory conditions are corrected.

3.2 INSTALLATION

A. Erection of Aluminum Windows

1. Install windows with skilled tradesmen in exact accordance with approved Shop Drawings, Installation Instructions, Specifications, and in accordance with (AAMA 101/I.S.2./ A440).
2. Windows must be installed plumb, square, and level for proper weathering and operation. Jamb must not be "sprung", bowed, or warped during installation.
3. Any uncoated aluminum components of Aluminum Window shall be insulated from direct contact with steel, masonry, concrete, or other dissimilar metals by bituminous paint, zinc chromate primer, nonconductive shims, or other suitable insulating materials.

B. Field Tests

1. Field testing procedure of installed windows shall be in accordance with AAMA 502.
2. The test pressure used during the field test procedure shall be 2/3 of the rated test pressure of the test specimen in accordance with AAMA 502. There shall be no optional variances over 2/3 used during testing.

3. Initial field testing must be performed prior to no more than 5% of windows have been installed. All field testing expenses shall be at the burden of the contractor

3.2 ADJUSTING AND CLEANING

- A. After completion of window installation, windows shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, or other debris. Protection from this point shall be the responsibility of the General Contractor.

END OF SECTION

**EXHIBIT A - HAZARDOUS
MATERIAL SURVEY**

APPENDIX A AND B

Appendix A



SCI ENGINEERING, INC.

CONSULTANTS IN DEVELOPMENT,
DESIGN, AND CONSTRUCTION
GEOTECHNICAL
ENVIRONMENTAL
NATURAL RESOURCES
CULTURAL RESOURCES
CONSTRUCTION SERVICES

April 21, 2017

Mr. Ty Morris
Barr Engineering Company
1001 Diamond Ridge, Suite 1100
Jefferson City, Missouri 65109

RE: Asbestos Survey Activities
FLW Building 1029 Renovation (T1713-01)
Fort Leonard Wood, Missouri
SCI No. 2017-7007.25, Task 101

Dear Mr. Morris:

INTRODUCTION

SCI Engineering, Inc. (SCI) is pleased to submit this report of the analytical test results for samples of suspect asbestos-containing materials (ACMs) collected during the survey performed on March 13, 2017 and April 6, 2017. These surveys were restricted to sampling the ceiling texture throughout Building 1029 at Fort Leonard Wood, no other areas of the structure were surveyed.

The purpose of this survey was to delineate the previous identified asbestos containing ceiling texture found throughout the second and third floor of the structure. The purpose was also to further sample the ceiling texture in the first floor to confirm that this ceiling texture is not an ACM. This survey is intended to satisfy the requirements for the asbestos National Emission Standard for Hazardous Air Pollutant for demolition and renovation. It is also intended to be used for Occupational Safety and Health Administration (OSHA) compliance.

The on-site structure is an approximate 13,500-square-foot three-story residential dormitory which appears to have been constructed in the early 1940s. The exterior of the building was brick with metal windows and utilized boilers with natural gas for heating.

ASBESTOS SURVEY

During SCI's survey on March 13, 2017, 59 samples were collected from the ceiling texture on-site. Three of these samples were collected from the first floor, 28 from the second floor and 28 from the third floor. These samples were analyzed by Polarized Light Microscopy (PLM). Of these 59 samples, none were found to contain asbestos.

SCI selected one sample at random from the first floor to be analyzed by PLM – 400 Point Count Procedure. This is a more precise way of identifying and quantifying asbestos fibers within bulk samples. This sample was found to contain asbestos. Analytical test results and chain-of-custody documentation are enclosed. The results of the PLM and Point Count analysis of all samples are summarized in Table 1.

Table 1 – Summary of Analytical Test Results – PLM and Point Count Analysis

| Sample Number | Material Location | Material Description | Approx. Quantity | Result | Category |
|------------------|--|----------------------|------------------|-----------------|----------|
| 121-1 | Room 121 | Ceiling Texture | -- | None Detected | -- |
| 109-1 | Room 109 | | | None Detected | |
| 125-1 | Room 125 | | | None Detected | |
| 2E Stairs-1 | 2 nd Floor East Stairs | | | None Detected | |
| 227-1 | Room 227 | | | None Detected | |
| 226-1 | Room 226 | | | None Detected | |
| 229-1 | Room 229 | | | None Detected | |
| 225-1 | Room 225 | | | None Detected | |
| 230-1 | Room 230 | | | None Detected | |
| 224-1 | Room 224 | | | Ceiling Texture | |
| 223-1 | Room 223 | None Detected | | | |
| 222-1 | Room 222 | None Detected | | | |
| 234-1 | Room 234 | None Detected | | | |
| 2 East Hallway-1 | 2 nd Floor East Hallway | None Detected | | | |
| 2E Lounge-1 | 2 nd Floor East Lounge | None Detected | | | |
| 2C Hallway-1 | 2 nd Floor Center Hallway | None Detected | | | |
| 235-1 | Room 235 | None Detected | | | |
| 236-1 | Room 236 | None Detected | | | |
| 2E Dressing-1 | 2 nd Floor East Dressing Room | None Detected | | | |
| 2W Dressing-1 | 2 nd Floor West Dressing Room | None Detected | | | |
| 2W Lounge-1 | 2 nd Floor West Lounge | None Detected | | | |
| 212-1 | Room 212 | None Detected | | | |
| 2W Stairs-1 | 2 nd Floor West Stairs | None Detected | | | |
| 211-1 | Room 211 | None Detected | | | |
| 210-1 | Room 210 | None Detected | | | |
| 2W Hallway-1 | 2 nd Floor West Hallway | None Detected | | | |
| 204-1 | Room 204 | None Detected | | | |
| 209-1 | Room 209 | None Detected | | | |
| 208-1 | Room 208 | None Detected | | | |

Table 1 – Summary of Analytical Test Results (continued)

| Sample Number | Material Location | Material Description | Approx. Quantity | Result | Category |
|---------------|--------------------------------------|----------------------|------------------|---------------|----------|
| 206-1 | Room 206 | Ceiling Texture | -- | None Detected | -- |
| 207-1 | Room 207 | | | None Detected | |
| 3W Stairs-1 | 3 rd Floor West Stairs | | | None Detected | |
| 3W Hallway-1 | 3 rd Floor West Hallway | | | None Detected | |
| 307-1 | Room 307 | | | None Detected | |
| 306-1 | Room 306 | | | None Detected | |
| 308-1 | Room 308 | | | None Detected | |
| 305-1 | Room 305 | | | None Detected | |
| 309-1 | Room 309 | | | None Detected | |
| 310-1 | Room 310 | | | None Detected | |
| 311-1 | Room 311 | | | None Detected | |
| 312-1 | Room 312 | | | None Detected | |
| 3W Lounge-1 | 3 rd Floor West Lounge | | | None Detected | |
| 336-1 | Room 336 | | | None Detected | |
| 3W Dressing-1 | 3 rd Floor West Dressing | | | None Detected | |
| 3C Hallway-1 | 3 rd Floor Center Hallway | | | None Detected | |
| 335-1 | Room 335 | | | None Detected | |
| 3E Dressing-1 | 3 rd Floor East Dressing | | | None Detected | |
| 3E Lounge-1 | 3 rd Floor East Lounge | | | None Detected | |
| 334-1 | Room 334 | | | None Detected | |
| 322-1 | Room 322 | | | None Detected | |
| 3E Stairs-1 | 3 rd Floor East Stairs | | | None Detected | |
| 323-1 | Room 323 | | | None Detected | |
| 324-1 | Room 324 | | | None Detected | |
| 3E Hallway-1 | 3 rd Floor East Hallway | | | None Detected | |
| 330-1 | Room 330 | | | None Detected | |
| 325-1 | Room 325 | | | None Detected | |
| 329-1 | Room 329 | | | None Detected | |

Table 1 – Summary of Analytical Test Results (continued)

| Sample Number | Material Location | Material Description | Approx. Quantity | Result | Category |
|---------------|-------------------|-------------------------------|------------------|------------------|----------|
| 326-1 | Room 326 | | | None Detected | |
| 328-1 | Room 328 | | | None Detected | |
| 121-1 | Room 121 | Ceiling Texture (Point Count) | -- | 0.75% Chrysotile | Friable |

As the point-count analysis was positive, SCI selected six samples at random to be analyzed by Transmission Electron Microscopy (TEM). This procedure is more precise in identifying and quantifying asbestos fibers within bulk samples. Of these 6 samples, all 6 were found to contain asbestos. Analytical test results and chain-of-custody documentation are enclosed. The results of the analysis of these samples are summarized in Table 2.

Table 2 – Summary of Analytical Test Results – TEM Analysis

| Sample Number | Material Location | Material Description | Approx. Quantity | Result | Category |
|---------------|------------------------------------|----------------------|------------------|------------------|----------|
| 230-1 | Room 230 | Ceiling Texture | -- | 2.4% Chrysotile | Friable |
| 212-1 | Room 212 | | | 2.6% Chrysotile | Friable |
| 207-1 | Room 207 | | | 0.62% Chrysotile | Friable |
| 305-1 | Room 305 | | | 0.62% Chrysotile | Friable |
| 335-1 | Room 335 | | | 0.61% Chrysotile | Friable |
| 3E Hallway-1 | 3 rd Floor East Hallway | | | 0.65% Chrysotile | Friable |

SCI selected five samples at random to be analyzed by a different laboratory by Polarized Light Microscopy (PLM) as confirmation of these results. Of these 5 samples, 4 were found to contain asbestos. Analytical test results and chain-of-custody documentation are enclosed. The results of the analysis of these samples are summarized in Table 3.

Table 3 – Summary of Positive Analytical Test Results – PLM Analysis

| Sample Number | Material Location | Material Description | Approx. Quantity | Result | Category |
|---------------|-------------------|----------------------|------------------|----------------|----------|
| 206-1 | Room 206 | Ceiling Texture | -- | <1% Chrysotile | Friable |
| 226-1 | Room 226 | | | <1% Chrysotile | Friable |
| 324-1 | Room 324 | | | <1% Chrysotile | Friable |
| 325-1 | Room 325 | | | None Detected | -- |
| 330-1 | Room 330 | | | <1% Chrysotile | Friable |

SCI remobilized to the site on April 6, 2017, to sample more locations of the ceiling texture of the first floor of the structure. SCI collected 12 samples from the ceiling texture on-site to be analyzed by Polarized Light Microscopy (PLM). Of these 12 samples, none were found to contain asbestos. Analytical test results and chain-of-custody documentation are enclosed. The results of the analysis of all samples are summarized in Table 1. The locations specified below are per the demolition drawing was provided.

Table 4 – Summary of Analytical Test Results – 1st Floor

| Sample Number | Material Location | Material Description | Approx. Quantity | Result | Category |
|---------------|-------------------|----------------------|------------------|---------------|----------|
| SCA-1 | Room 107 | Ceiling Texture | -- | None Detected | -- |
| SCA-2 | Room 110 | | | None Detected | |
| SCA-3 | Room 114 | | | None Detected | |
| SCA-4 | Room 122 | | | None Detected | |
| SCA-5 | Room 118 | | | None Detected | |
| SCA-6 | Room 128 | | | None Detected | |
| SCA-7 | Room 126 | | | None Detected | |
| SCA-8 | Room 134 | | | None Detected | |
| SCA-9 | Room 131 | | | None Detected | |
| SCA-10 | Room 137 | | | None Detected | |
| SCA-11 | Room 144 | | | None Detected | |
| SCA-12 | Room 142 | | | None Detected | |

DEMOLITION/RENOVATION

According to the Missouri Department of Natural Resources (MDNR), any friable or potentially friable ACM equal to or greater than 260 linear feet or 160 square feet is classified as a regulated ACM (RACM) and must be removed prior to demolition or renovation which would significantly damage the material.

Based on the information above, it is SCI’s opinion that the ceiling texture on the second and third floor of the structure is considered asbestos containing. Although some of the samples in various locations came back negative, these samples were homogeneous and cannot be distinguished. Therefore, SCI believes that the ceiling texture on the second and third floor of the structure is an ACM. The ceiling texture is a friable material and exceeds the minimum quantity requirements. This material, therefore, must be removed from the structure prior to renovation.

SCI collected a total of 18 ceiling texture samples on the first floor of the structure. Only one of these samples was determined to be positive for asbestos. Based on the information provided, SCI recommends that the ceiling texture on the first floor be considered asbestos-containing or the remaining rooms be sampled to determine whether homogenous areas can be determined.

The Occupational Safety & Health Administration also has regulations (29 CFR Parts 1910 et al, Occupational Exposure to Asbestos, August 10, 1994) regarding removal of asbestos-containing materials which must be followed.

REPORTING

Attached is Demolition and Renovation form which has been filled out to the extent possible by SCI. The remaining information must be completed by you.

This report, as well as the completed EPA Notification of Demolition and Renovation form, must be submitted to the MDNR as follows:

- MDNR, Air Pollution Control, PO Box 176, Jefferson City, MO, 65102, Mr. Todd Schneiders.

It should be noted that following submittal of the notification form, there is a ten day waiting period before demolition, renovation, or abatement activities can begin.

SCI's asbestos survey entailed visually assessing accessible areas only. If any other suspect asbestos materials are discovered during demolition or renovation, please contact SCI, and we will make arrangements for assessment of these materials. Areas behind walls, under subfloors and above fixed ceilings are considered non-accessible.

If this report is to be used for bidding purposes for asbestos abatement, SCI recommends the contractor visit the site to verify all conditions and quantities.

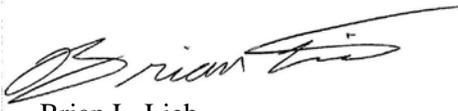
SCI appreciates the opportunity to be of service to you on this project, and we look forward to working with you in the future. Please contact us if you have any questions or comments regarding the information provided.

Respectfully,

SCI ENGINEERING, INC.



Zachary S. Usher
Missouri State Certified Asbestos Inspector
Certificate Number 7011090916MOII18920



Brian L. Lieb
Staff Scientist



Edwin P. Grimmer, P.E.
Vice President

ZSU/BLL/EPG/GAG/rah

Enclosure



STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

ASBESTOS NESHAP NOTIFICATION OF DEMOLITION AND RENOVATION

| | | | | | |
|---|-----------------------|---|---------------------|--|--------|
| OPERATOR PROJECT NO. | POSTMARK | DATE RECEIVED | NOTIFICATION NUMBER | | |
| I. TYPE OF NOTIFICATION <input type="checkbox"/> O – ORIGINAL <input type="checkbox"/> C – CANCELLED <input type="checkbox"/> R – REVISION, WRITE REVISION NUMBER _____ | | | | | |
| II. FACILITY INFORMATION (IDENTIFY OWNER, REMOVAL CONTRACTOR, AND OTHER OPERATOR) | | | | | |
| OWNER NAME | | ADDRESS | | | |
| CITY | COUNTY | STATE | ZIP CODE | | |
| CONTACT | | TELEPHONE NUMBER | | | |
| ASBESTOS REMOVAL CONTRACTOR | | ADDRESS | | | |
| CITY | | STATE | ZIP CODE | | |
| CONTACT | | TELEPHONE NUMBER | TITLE | | |
| DEMOLITION CONTRACTOR | | ADDRESS | | | |
| CITY | | STATE | ZIP CODE | | |
| CONTACT | | TELEPHONE NUMBER | TITLE | | |
| III. TYPE OF OPERATION <input type="checkbox"/> D - DEMO <input type="checkbox"/> O – ORDERED DEMO <input type="checkbox"/> R – RENOVATION <input type="checkbox"/> E – EMERGENCY RENOVATION | | | | | |
| IV. IS ASBESTOS PRESENT <input type="checkbox"/> YES <input type="checkbox"/> NO | | LIST TYPE OF ASBESTOS MATERIAL(S) TO BE REMOVED | | | |
| V. FACILITY DESCRIPTION (INCLUDE BUILDING NAME, NUMBER AND FLOOR OR ROOM NUMBER) | | | | | |
| BUILDING NAME Building 1029 | | | | | |
| ADDRESS Fort Leonard Wood | | | | | |
| CITY Fort Leonard Wood | COUNTY | STATE MO | ZIP CODE | | |
| SITE LOCATION Fort Leonard Wood | | | | | |
| BUILDING SIZE 13,500 sf | NUMBER OF FLOORS 3 | AGE IN YEARS | | | |
| PRESENT USE Dormitory | | PRIOR USE | | | |
| VI. PROCEDURE, INCLUDING ANALYTICAL METHOD, IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL. INCLUDE A COPY OF THE ASBESTOS INSPECTION. Inspection with analysis by Polarized Light Microscopy (PLM) | | | | | |
| VII. APPROXIMATE AMOUNT OF ASBESTOS, INCLUDING: | | | | | |
| 1. REGULATED ACM (RACM) 2. CATEGORY I ACM 3. CATEGORY II ACM | RACM TO BE REMOVED | NONFRIABLE ASBESTOS MATERIAL TO BE REMOVED | | NONFRIABLE ASBESTOS MATERIAL NOT TO BE REMOVED | |
| | | CAT I | CAT II | CAT I | CAT II |
| PIPES (LINEAR FEET) | | | | | |
| SURFACE AREA (SQUARE FEET) | | | | | |
| VOL. RACM OFF FACILITY COMPONENT (CUBIC FEET) | | | | | |

| | | | |
|---|--|----------------------------------|--------------------|
| VIII. SCHEDULED DATES DEMO/RENOVATION (MM/DD/YY) | | | |
| START: | | COMPLETE: | |
| IX. SCHEDULED DATES ASBESTOS REMOVAL (MM/DD/YY) | | WEEKDAYS WORK HOURS | WEEKEND WORK HOURS |
| START: | | COMPLETE: | |
| X. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND METHOD(S) TO BE USED | | | |
| XI. DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE DEMOLITION AND RENOVATION SITE. | | | |
| XII. WASTE TRANSPORTER | | | |
| ADDRESS | | | |
| CITY | | STATE | ZIP CODE |
| CONTACT PERSON | | TELEPHONE NUMBER | |
| XIII. WASTE DISPOSAL SITE | | | |
| NAME | | | |
| LOCATION | | | |
| CITY | | STATE | ZIP CODE |
| TELEPHONE NUMBER | | | |
| XIV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW | | | |
| NAME | | TITLE | |
| AUTHORITY | | | |
| DATE OF ORDER (MM/DD/YY) INCLUDE A COPY OF THE ORDER. | | DATE ORDERED TO BEGIN (MM/DD/YY) | |
| XV. FOR EMERGENCY RENOVATIONS | | | |
| A. DATE AND HOUR OF EMERGENCY (MM/DD/YY) | | | |
| B. DESCRIPTION OF THE SUDDEN, UNEXPECTED EVENT | | | |
| C. EXPLANATION OF HOW THE EVENT CAUSED UNSAFE CONDITIONS OR WOULD CAUSE EQUIPMENT DAMAGE OR AN UNREASONABLE FINANCIAL BURDEN | | | |
| XVI. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER. Stop work and contact a licensed inspector. | | | |
| XVII. I certify that an individual trained in the provisions of this regulation (40 CFR Part 61, Subpart M) will be on-site during the demolition or renovation and evidence that the required training has been accomplished by this person will be available for inspection during normal business hours (required 1 year after promulgation). | | | |
| SIGNATURE OF OWNER/OPERATOR | | | DATE |
| XVIII. I Certify that the above information is correct. | | | |
| SIGNATURE OF OWNER/OPERATOR | | | DATE |



EMSL Analytical, Inc.

3029 S. Jefferson Saint Louis, MO 63118

Tel/Fax: (314) 577-0150 / (314) 776-3313

<http://www.EMSL.com> / saintlouislab@emsl.com

EMSL Order: 391702566

Customer ID: SC150

Customer PO:

Project ID:

Attention: Brian Lieb
SCI Engineering, Inc.
130 Point West Blvd.
Saint Charles, MO 63301

Phone: (636) 757-1069

Fax: (636) 949-8269

Received Date: 03/14/2017 11:45 AM

Analysis Date: 03/17/2017

Collected Date:

Project: 2017-7007.25 FLW Building 1029 Renovation

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

| Sample | Description | Appearance | Non-Asbestos | | Asbestos |
|------------------------------------|-------------|---|--------------|--------------------------|---------------|
| | | | % Fibrous | % Non-Fibrous | % Type |
| 109-1 391702566-0001 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 125-1 391702566-0002 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 2E Stairs-1 391702566-0003 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 227-1 391702566-0004 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 226-1 391702566-0005 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 229-1 391702566-0006 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 225-1 391702566-0007 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 230-1 391702566-0008 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 224-1 391702566-0009 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 223-1 391702566-0010 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 222-1 391702566-0011 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 234-1 391702566-0012 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 2 East hallway-1 391702566-0013 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 2E Lounge-1 391702566-0014 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 2C Hallway-1 391702566-0015 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 235-1 391702566-0016 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |

Initial report from: 03/17/2017 15:26:45



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| |
|------------------------------|
| EMSL Order: 391702566 |
| Customer ID: SC150 |
| Customer PO: |
| Project ID: |

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

| Sample | Description | Appearance | Non-Asbestos | | Asbestos |
|----------------------------------|-------------|---|--------------|--------------------------|---------------|
| | | | % Fibrous | % Non-Fibrous | % Type |
| 236-1 391702566-0017 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 2 E Dressing-1 391702566-0018 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 2 W Dressing-1 391702566-0019 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 2 W Lounge-1 391702566-0020 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 212-1 391702566-0021 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 2 W Stairs-1 391702566-0022 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 211-1 391702566-0023 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 210-1 391702566-0024 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 2W Hallway-1 391702566-0025 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 204-1 391702566-0026 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 209-1 391702566-0027 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 208-1 391702566-0028 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 206-1 391702566-0029 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 207-1 391702566-0030 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 3W Stairs-1 391702566-0031 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 3W Hallway-1 391702566-0032 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 307-1 391702566-0033 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 306-1 391702566-0034 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 308-1 391702566-0035 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |

Initial report from: 03/17/2017 15:26:45



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| |
|------------------------------|
| EMSL Order: 391702566 |
| Customer ID: SC150 |
| Customer PO: |
| Project ID: |

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

| Sample | Description | Appearance | Non-Asbestos | | Asbestos |
|---------------------------------|-------------|---|--------------|--------------------------|---------------|
| | | | % Fibrous | % Non-Fibrous | % Type |
| 305-1 391702566-0036 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 309-1 391702566-0037 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 310-1 391702566-0038 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 311-1 391702566-0039 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 312-1 391702566-0040 | | Various Non-Fibrous Homogeneous | | 100% Non-fibrous (Other) | None Detected |
| 3 W Lounge-1 391702566-0041 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 336-1 391702566-0042 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 3W Dressing-1 391702566-0043 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 3C Hallway-1 391702566-0044 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 335-1 391702566-0045 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 3E Dressing-1 391702566-0046 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 3E Lounge-1 391702566-0047 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 334-1 391702566-0048 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 322-1 391702566-0049 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 3E Stairs-1 391702566-0050 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 323-1 391702566-0051 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 324-1 391702566-0052 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 3E Hallway-1 391702566-0053 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 330-1 391702566-0054 | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |

Initial report from: 03/17/2017 15:26:45



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3029 S. Jefferson Saint Louis, MO 63118

Tel/Fax: (314) 577-0150 / (314) 776-3313

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EMSL Order: 391702566
Customer ID: SCI50
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

| Sample | Description | Appearance | Non-Asbestos | | Asbestos |
|--|-------------|---|--------------|--------------------------|---------------|
| | | | % Fibrous | % Non-Fibrous | % Type |
| 325-1 <small>391702566-0055</small> | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 329-1 <small>391702566-0056</small> | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 326-1 <small>391702566-0057</small> | | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |
| 328-1 <small>391702566-0058</small> | 3 | Various Non-Fibrous Heterogeneous | | 100% Non-fibrous (Other) | None Detected |

Analyst(s) _____

Sue Ferrario (58)

Jeff Siria, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Saint Louis, MO NVLAP Lab Code 200742-0

Initial report from: 03/17/2017 15:26:45



BULK ASBESTOS CHAIN OF CUSTODY

130 Point West Boulevard
St. Charles, Missouri 63301
636-949-8200 Fax 636-949-8269
www.sciengineering.com

391702566

| | |
|---|--|
| Company: SCI Engineering, Inc. | Please Provide Results Via: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail |
| Street: 130 Point West Boulevard | To: Brian Lieb |
| City/State/Zip: St. Charles, Missouri 63301 | Telephone #: 636-949-8200 Fax #: 636-949-8269 |
| Project Name: FLW Building 1029 Renovation | Email: blieb@sciengineering.com |
| Project Number: 2017-7007.25 | |

Turnaround Time (TAT) Options - Please Check One

| | | | | | | |
|---------------------------------|---------------------------------|----------------------------------|----------------------------------|---|----------------------------------|--------------------------------|
| <input type="checkbox"/> 3 Hour | <input type="checkbox"/> 6 Hour | <input type="checkbox"/> 24 Hour | <input type="checkbox"/> 48 Hour | <input checked="" type="checkbox"/> 72 Hour | <input type="checkbox"/> 96 Hour | <input type="checkbox"/> Other |
|---------------------------------|---------------------------------|----------------------------------|----------------------------------|---|----------------------------------|--------------------------------|

| | |
|---|--|
| PLM Bulk Analysis <input checked="" type="checkbox"/> PLM-EPA 600 <input type="checkbox"/> PLM-EPA 600 NOB <input type="checkbox"/> PLM-Point Count | TEM Bulk Analysis <input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1 <input type="checkbox"/> Chatfield Protocol (semi-quantitative) |
|---|--|

Check Box for Stop Positive

Comments: PLM-Point Count on 121-1

Samplers Name: Zach Usher Samplers Signature: *[Signature]* Date Sampled: 3/13/17

Building Use/Description/Features: 3 story residential dormitory Age: Size: 13500 sf

Windows: 82 Siding: Roof: Attic: HVAC: Boiler w/ natural gas

| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
|-------------|-----------------------|----------------------|------------------|-----------|----------|
| 121-1 | Rm 121 | Ceiling Texture | | Good | |
| 109-1 | Rm 109 | ↓ | | | |
| 125-1 | Rm 125 | | | | |
| 2E Stairs-1 | 2nd Floor East Stairs | | | | |
| 227-1 | Rm 227 | | | | |
| 226-1 | Rm 226 | | | | |
| 229-1 | Rm 229 | | | | |
| 225-1 | Rm 225 | | | | |
| 230-1 | Rm 230 | | | | |

| | | |
|----------------------------------|---------------|---------------|
| Relinquished: <i>[Signature]</i> | Date: 3/13/17 | Time: 4:30 pm |
| Received: <i>[Signature]</i> | Date: 3-14-17 | Time: 11:45C |

Per call from Brian do not analyze 121-1 by regular PLM. It is a separate order. BB

400
P.2

OrderID: 391702566

Project Name/Number FLW Building 1029 Renovation / 2017-7007.25

| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
|------------------|-----------------------------|----------------------|------------------|-----------|----------|
| 224-1 | Rm 224 | Ceiling Texture | | Good | |
| 223-1 | Rm 223 | | | | |
| 222-1 | Rm 222 | | | | |
| 234-1 | Rm 234 | | | | |
| 2 East Hallway-1 | 2nd Floor East Hallway | | | | |
| 2E Lounge-1 | 2nd Floor East Lounge | | | | |
| 2C Hallway-1 | 2nd Floor Center Hallway | | | | |
| 235-1 | Rm 235 | | | | |
| 236-1 | Rm 236 | | | | |
| 2E Dressing-1 | 2nd Floor East Dressing Rm. | | | | |
| 2W Dressing-1 | 2nd Floor West Dressing Rm | | | | |
| 2W Lounge-1 | 2nd Floor West Lounge | | | | |
| 212-1 | Rm 212 | | | | |
| 2W Stairs-1 | 2nd Floor West Stairs | | | | |
| 211-1 | Rm 211 | | | | |
| 210-1 | Rm 210 | | | | |
| 2W Hallway-1 | 2nd Floor West Hallway | | | | |
| 204-1 | Rm 204 | | | | |
| 209-1 | Rm 209 | | | | |
| 208-1 | Rm 208 | | | | |
| 206-1 | Rm 206 | | | | |

391702566

Project Name/Number FLW Building 1029 Renovation | 2017-7007.25

| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
|---------------|----------------------------|----------------------|------------------|-----------|----------|
| 207-1 | Rm 207 | Ceiling Texture | | Good | |
| 3W Stairs-1 | 3rd Floor West Stairs | | | | |
| 3W Hallway-1 | 3rd Floor West Hallway | | | | |
| 307-1 | Rm 307 | | | | |
| 306-1 | Rm 306 | | | | |
| 308-1 | Rm 308 | | | | |
| 305-1 | Rm 305 | | | | |
| 309-1 | Rm 309 | | | | |
| 310-1 | Rm 310 | | | | |
| 311-1 | Rm 311 | | | | |
| 312-1 | Rm 312 | | | | |
| 3W Lounge-1 | 3rd Floor West Lounge | | | | |
| 336-1 | Rm 336 | | | | |
| 3W Dressing-1 | 3rd Floor West Dressing Rm | | | | |
| 3C Hallway-1 | 3rd Floor Center Hallway | | | | |
| 335-1 | Rm 335 | | | | |
| 3E Dressing-1 | 3rd Floor East Dressing Rm | | | | |
| 3E Lounge-1 | 3rd Floor East Lounge | | | | |
| 334-1 | Rm 334 | | | | |
| 322-1 | Rm 322 | | | | |
| 3E Stairs-1 | 3rd Floor East Stairs | | | | |



EMSL Analytical, Inc.

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Phone/Fax: (314) 577-0150 / (314) 776-3313
<http://www.EMSL.com> / saintlouislab@emsl.com

EMSL Order: 391702565
Customer ID: SCI50
Customer PO:
Project ID:

Attention: Brian Lieb
SCI Engineering, Inc.
130 Point West Blvd.
Saint Charles, MO 63301

Phone: (636) 757-1069
Fax: (636) 949-8269
Received: 03/14/2017 11:45 AM
Analysis Date: 03/17/2017
Collected:

Project: 2017-7007.25 FLW Building 1029 Renovation

Test Report: Asbestos Analysis of Bulk Materials by PLM via EPA 600/R-93/116 Method using Polarized Light Microscopy. Quantitation using 400 Point Count Procedure

| Sample | Description | Appearance | Non-Asbestos | | Asbestos |
|-------------------------|-------------|-------------------------------------|--------------|----------------------------|------------------|
| | | | % Fibrous | % Non-Fibrous | % Type |
| 121-1 391702565-0001 | | White Non-Fibrous Homogeneous | | 99.25% Non-fibrous (Other) | 0.75% Chrysotile |

Analyst(s) _____

Donald Schmidt (1)

Jeff Siria, Laboratory Manager
or other approved signatory

Disclaimer: Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.25%. EMSL Analytical Inc suggests that samples reported as <0.25% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval of EMSL Analytical Inc. This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc., bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layered samples. EMSL Analytical Inc., liability is limited to the cost of sample analysis. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Saint Louis, MO

Initial report from: 03/17/2017 08:45:30



BULK ASBESTOS CHAIN OF CUSTODY

391702565

130 Point West Boulevard
St. Charles, Missouri 63301
636-949-8200 Fax 636-949-8269
www.sciengineering.com

| | | | | | |
|-----------------|------------------------------|-----------------------------|------------------------------|---|-------------------------------|
| Company: | SCI Engineering, Inc. | Please Provide Results Via: | <input type="checkbox"/> Fax | <input checked="" type="checkbox"/> Email | <input type="checkbox"/> Mail |
| Street: | 130 Point West Boulevard | To: | Brian Lieb | | |
| City/State/Zip: | St. Charles, Missouri 63301 | Telephone #: | 636-949-8200 | Fax #: | 636-949-8269 |
| Project Name: | FLW Building 1029 Renovation | Email: | blieb@sciengineering.com | | |
| Project Number: | 2017-7007.25 | | | | |

Turnaround Time (TAT) Options - Please Check One

| | | | | | | |
|---------------------------------|---------------------------------|----------------------------------|----------------------------------|---|----------------------------------|--------------------------------|
| <input type="checkbox"/> 3 Hour | <input type="checkbox"/> 6 Hour | <input type="checkbox"/> 24 Hour | <input type="checkbox"/> 48 Hour | <input checked="" type="checkbox"/> 72 Hour | <input type="checkbox"/> 96 Hour | <input type="checkbox"/> Other |
|---------------------------------|---------------------------------|----------------------------------|----------------------------------|---|----------------------------------|--------------------------------|

| | |
|---|--|
| PLM Bulk Analysis <input checked="" type="checkbox"/> PLM-EPA 600 <input type="checkbox"/> PLM-EPA 600 NOB <input type="checkbox"/> PLM-Point Count | TEM Bulk Analysis <input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1 <input type="checkbox"/> Chatfield Protocol (semi-quantitative) |
|---|--|

Check Box for Stop Positive

Comments: PLM-Point Count on 121-1

| | | | | | |
|----------------|------------|---------------------|--------------------|---------------|---------|
| Samplers Name: | Zach Usher | Samplers Signature: | <i>[Signature]</i> | Date Sampled: | 3/13/17 |
|----------------|------------|---------------------|--------------------|---------------|---------|

| | | | | | |
|------------------------------------|-------------------------------|---------|--|--------|-----------------------|
| Building Use/Description/Features: | 3 story residential dormitory | Age: | | Size: | 13500 sf |
| Windows: | 82 | Siding: | | Roof: | |
| | | | | Attic: | |
| | | | | HVAC: | Boiler w/ natural gas |

| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
|-------------|-----------------------|----------------------|------------------|-----------|----------|
| 121-1 | Rm 121 | Ceiling Texture | | Good | |
| 109-1 | Rm 109 | | | | |
| 125-1 | Rm 125 | | | | |
| 2E Stairs-1 | 2nd Floor East Stairs | | | | |
| 227-1 | Rm 227 | | | | |
| 226-1 | Rm 226 | | | | |
| 229-1 | Rm 229 | | | | |
| 225-1 | Rm 225 | | | | |
| 230-1 | Rm 230 | | | | |

| | | | | | |
|---------------|--------------------|-------|---------|-------|---------|
| Relinquished: | <i>[Signature]</i> | Date: | 3/13/17 | Time: | 4:30 pm |
| Received: | <i>[Signature]</i> | Date: | 3-14-17 | Time: | 11:45C |

Per call from Brian test only 121-1 400pc 72 hrs. BB

OrderID: 391702565

Project Name/Number FLW Building 1029 Renovation / 2017-7007.25

| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
|------------------|-----------------------------|----------------------|------------------|-----------|----------|
| 224-1 | Rm 224 | Ceiling Texture | | Good | |
| 223-1 | Rm 223 | | | | |
| 222-1 | Rm 222 | | | | |
| 234-1 | Rm 234 | | | | |
| 2 East Hallway-1 | 2nd Floor East Hallway | | | | |
| 2E Lounge-1 | 2nd Floor East Lounge | | | | |
| 2C Hallway-1 | 2nd Floor Center Hallway | | | | |
| 235-1 | Rm 235 | | | | |
| 236-1 | Rm 236 | | | | |
| 2E Dressing-1 | 2nd Floor East Dressing Rm. | | | | |
| 2W Dressing-1 | 2nd Floor West Dressing Rm | | | | |
| 2W Lounge-1 | 2nd Floor West Lounge | | | | |
| 212-1 | Rm 212 | | | | |
| 2W Stairs-1 | 2nd Floor West Stairs | | | | |
| 211-1 | Rm 211 | | | | |
| 210-1 | Rm 210 | | | | |
| 2W Hallway-1 | 2nd Floor West Hallway | | | | |
| 204-1 | Rm 204 | | | | |
| 209-1 | Rm 209 | | | | |
| 208-1 | Rm 208 | | | | |
| 206-1 | Rm 206 | | | | |

Project Name/Number W Building 1029 Renovation / 2017-7007.25

| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
|---------------|----------------------------|----------------------|------------------|-----------|----------|
| 207-1 | Rm 207 | Ceiling Texture | | Good | |
| 3W Stairs-1 | 3rd Floor West Stairs | | | | |
| 3W Hallway-1 | 3rd Floor West Hallway | | | | |
| 307-1 | Rm 307 | | | | |
| 306-1 | Rm 306 | | | | |
| 308-1 | Rm 308 | | | | |
| 305-1 | Rm 305 | | | | |
| 309-1 | Rm 309 | | | | |
| 310-1 | Rm 310 | | | | |
| 311-1 | Rm 311 | | | | |
| 312-1 | Rm 312 | | | | |
| 3W Lounge-1 | 3rd Floor West Lounge | | | | |
| 336-1 | Rm 336 | | | | |
| 3W Dressing-1 | 3rd Floor West Dressing Rm | | | | |
| 3C Hallway-1 | 3rd Floor Center Hallway | | | | |
| 335-1 | Rm 335 | | | | |
| 3E Dressing-1 | 3rd Floor East Dressing Rm | | | | |
| 3E Lounge-1 | 3rd Floor East Lounge | | | | |
| 334-1 | Rm 334 | | | | |
| 322-1 | Rm 322 | | | | |
| 3E Stairs-1 | 3rd Floor East Stairs | | | | |



EMSL Analytical, Inc.

3029 S. Jefferson Saint Louis, MO 63118
Tel/Fax: (314) 577-0150 / (314) 776-3313
<http://www.EMSL.com> / saintlouislab@emsl.com

EMSL Order: 391702803
Customer ID: SCI50
Customer PO:
Project ID:

Attention: Brian Lieb
SCI Engineering, Inc.
130 Point West Blvd.
Saint Charles, MO 63301

Phone: (636) 757-1069
Fax: (636) 949-8269
Received Date: 03/23/2017 12:23 PM
Analysis Date: 03/28/2017
Collected Date:

Project: FLW Building 1029 Renovation 2017-7007.25

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

| Sample ID | Description | Appearance | % Matrix Material | % Non-Asbestos Fibers | Asbestos Types |
|---------------------------------|-------------|-------------------------------------|-------------------|-----------------------|------------------|
| 230-1 391702803-0001 | | White Non-Fibrous Homogeneous | 97.6 | None | 2.4% Chrysotile |
| 212-1 391702803-0002 | | White Non-Fibrous Homogeneous | 97.4 | None | 2.6% Chrysotile |
| 207-1 391702803-0003 | | White Non-Fibrous Homogeneous | 99.4 | None | 0.62% Chrysotile |
| 305-1 391702803-0004 | | White Non-Fibrous Homogeneous | 99.4 | None | 0.62% Chrysotile |
| 335-1 391702803-0005 | | White Non-Fibrous Homogeneous | 99.4 | None | 0.61% Chrysotile |
| 3 E Hallway-1 391702803-0006 | | White Non-Fibrous Homogeneous | 99.4 | None | 0.65% Chrysotile |

Analyst(s)

Donald Schmidt (6)

Jeff Siria, Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Saint Louis, MO

Initial report from: 03/28/2017 11:07:16



BULK ASBESTOS CHAIN OF CUSTODY

130 Point West Boulevard
St. Charles, Missouri 63301
636-949-8200 Fax 636-949-8269
www.sciengineering.com

391702803 PC

391702566

| Company: SCI Engineering, Inc. | | Please Provide Results Via: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail | | | |
|---|---------------------------------|--|--|-----------|----------|
| Street: 130 Point West Boulevard | | To: Brian Lieb | | | |
| City/State/Zip: St. Charles, Missouri 63301 | | Telephone #: 636-949-8200 Fax #: 636-949-8269 | | | |
| Project Name: FLW Building 1029 Renovation | | Email: bliieb@sciengineering.com | | | |
| Project Number: 2017-7007.25 | | | | | |
| Turnaround Time (TAT) Options - Please Check One | | | | | |
| <input type="checkbox"/> 3 Hour | <input type="checkbox"/> 6 Hour | <input type="checkbox"/> 24 Hour | <input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> Other | | |
| PLM Bulk Analysis <input checked="" type="checkbox"/> PLM-EPA 600 <input type="checkbox"/> PLM-EPA 600 NOB <input type="checkbox"/> PLM-Point Count <input type="checkbox"/> Check Box for Stop Positive | | TEM Bulk Analysis <input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1 <input type="checkbox"/> Chatfield Protocol (semi-quantitative) | | | |
| Comments: PLM-Point Count on 121-1 | | | | | |
| Samplers Name: Zach Usher | | Samplers Signature: <i>[Signature]</i> | Date Sampled: 3/13/17 | | |
| Building Use/Description/Features: 3 story residential dormitory | | | Age: | | |
| Size: 13500 sf | | | HVAC: Boiler w/ natural gas | | |
| Windows: 82 | Siding: | Roof: | Attic: | | |
| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
| 121-1 | Rm 121 | Ceiling Texture | | Good | |
| 109-1 | Rm 109 | | | | |
| 125-1 | Rm 125 | | | | |
| 2E Stairs-1 | 2nd Floor East Stairs | | | | |
| 227-1 | Rm 227 | | | | |
| 226-1 | Rm 226 | | | | |
| 229-1 | Rm 229 | | | | |
| 225-1 | Rm 225 | | | | |
| 230-1 | Rm 230 | | | | |
| Relinquished: <i>[Signature]</i> | | Date: 3/13/17 | Time: 4:30 pm | | |
| Received: <i>[Signature]</i> | | Date: 3-14-17 | Time: 11:45C | | |

400
P.C.

OrderID: 391702803
OrderID: 391702566

Per call from Brian do not analyze 121-1 by regular PLM. It is a separate order. BB

391702564

Project Name/Number FLW Building 1029 Renovation / 2017-7007.25 391702803 pc

| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
|------------------|-----------------------------|----------------------|------------------|-----------|----------|
| 224-1 | Rm 224 | Ceiling Texture | | Good | |
| 223-1 | Rm 223 | | | | |
| 222-1 | Rm 222 | | | | |
| 234-1 | Rm 234 | | | | |
| 2 East Hallway-1 | 2nd Floor East Hallway | | | | |
| 2E Lounge-1 | 2nd Floor East Lounge | | | | |
| 2C Hallway-1 | 2nd Floor Center Hallway | | | | |
| 235-1 | Rm 235 | | | | |
| 236-1 | Rm 236 | | | | |
| 2E Dressing-1 | 2nd Floor East Dressing Rm. | | | | |
| 2W Dressing-1 | 2nd Floor West Dressing Rm | | | | |
| 2W Lounge-1 | 2nd Floor West Lounge | | | | |
| 212-1 | Rm 212 | | | | |
| 2W Stairs-1 | 2nd Floor West Stairs | | | | |
| 211-1 | Rm 211 | | | | |
| 210-1 | Rm 210 | | | | |
| 2W Hallway-1 | 2nd Floor West Hallway | | | | |
| 204-1 | Rm 204 | | | | |
| 209-1 | Rm 209 | | | | |
| 208-1 | Rm 208 | | | | |
| 206-1 | Rm 206 | | | | |

391702566

Project Name/Number W Building 1029 Renovation | 2017-7007.25 391702803 PC

| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
|---------------|----------------------------|----------------------|------------------|-----------|----------|
| 207-1 | Rm 207 | Ceiling Texture | | Good | |
| 3W Stairs-1 | 3rd Floor West Stairs | | | | |
| 3W Hallway-1 | 3rd Floor West Hallway | | | | |
| 307-1 | Rm 307 | | | | |
| 306-1 | Rm 306 | | | | |
| 308-1 | Rm 308 | | | | |
| 305-1 | Rm 305 | | | | |
| 309-1 | Rm 309 | | | | |
| 310-1 | Rm 310 | | | | |
| 311-1 | Rm 311 | | | | |
| 312-1 | Rm 312 | | | | |
| 3W Lounge-1 | 3rd Floor West Lounge | | | | |
| 336-1 | Rm 336 | | | | |
| 3W Dressing-1 | 3rd Floor West Dressing Rm | | | | |
| 3C Hallway-1 | 3rd Floor Center Hallway | | | | |
| 335-1 | Rm 335 | | | | |
| 3E Dressing-1 | 3rd Floor East Dressing Rm | | | | |
| 3E Lounge-1 | 3rd Floor East Lounge | | | | |
| 334-1 | Rm 334 | | | | |
| 322-1 | Rm 322 | | | | |
| 3E Stairs-1 | 3rd Floor East Stairs | | | | |

Barton, Betty

From: Brian Lieb <BLieb@sciengineering.com>
Sent: Thursday, March 23, 2017 12:23 PM
To: EMSL Lab - Saint Louis
Cc: Ferrario, Susan
Subject: Re: EMSL report, COC for order(s) 391702566 (391702566 - 2017-7007.25 FLW Building 1029 Renovation)

Sue,

Let's go ahead and do TEM on the below mentioned samples. 3 day TAT.

Thanks

Sent from my iPhone

On Mar 21, 2017, at 3:27 PM, EMSL Lab - Saint Louis <saintlouislab@EMSL.com> wrote:

Is it 400 point count? What do you want for TAT?

<image002.jpg> **Betty Barton | Administration**

EMSL Analytical, Inc. | 3029 South Jefferson Avenue | Saint Louis, MO 63118

Phone: 314-577-0150 | Fax: 314-776-3313 | Toll Free: 866-736-4824

Lab Hours: Monday - Friday 8AM - 5:30PM, Saturday 9AM-5:30PM

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From: Brian Lieb [<mailto:BLieb@sciengineering.com>]

Sent: Tuesday, March 21, 2017 3:21 PM

To: Ferrario, Susan; EMSL Lab - Saint Louis

Subject: RE: EMSL report, COC for order(s) 391702566 (391702566 - 2017-7007.25 FLW Building 1029 Renovation)

Can we point count samples:

207-1

212-1

230-1

305-1

335-1

3 E Hallway-1

Thanks

From: EMSL (Saint Louis) [<mailto:saintlouislab@emsl.com>]

Sent: Friday, March 17, 2017 3:29 PM

To: Brian Lieb <BLieb@sciengineering.com>

Subject: EMSL report, COC for order(s) 391702566 (391702566 - 2017-7007.25 FLW Building 1029 Renovation)

Report, COC for order(s):
391702566 - 2017-7007.25 FLW Building 1029 Renovation

Please tell us how we are doing.

[Click here to fill out our Customer Survey](#)

<image003.png>

EMSL Analytical, Inc. | 3029 South Jefferson Avenue | Saint Louis, MO 63118
Phone: 314-577-0150 | Fax: 314-776-3313 | Toll Free: 866-736-4824
Lab Hours: Monday - Friday 8AM - 5:30PM, Saturday 9AM-5:30PM

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This electronic communication and its attachments may contain confidential information. They are forwarded to you without passing through our standard review process. Design data and recommendations included herein should not be used for final design. If you have received this information in error, please notify the sender immediately.



contact@hayesmicrobial.com
<http://hayesmicrobial.com/>

Analysis Report prepared for

SCI Engineering, Inc.

**130 Point West Boulevard
St. Charles, MO. 63301
Phone: (210) 660-7243**

**Job Number: 15-0067.26 T200
Job Name: FLW Building 1029
Date Sampled: 03-30-2017
Date Analyzed: 03-31-2017
Report Date: 03-31-2017**

EPA Laboratory ID# VA01419



NVLAP Lab Code: 500096-0



Asbestos License: 300435



License: #PH-0198



HAYES

MICROBIAL CONSULTING
3005 East Boundary Terrace, #F
Midlothian, VA 23112, USA
804.562.3435 Fax: 804.447.5562

HMC #17008379

**SCI Engineering, Inc.
130 Point West Boulevard
St. Charles, MO 63301**

March 31, 2017

Client Job Number: 15-0067.26 T200
Client Job Name: FLW Building 1029

Dear SCI Engineering, Inc.,

We would like to thank you for trusting Hayes Microbial for your analytical needs. On March 31, 2017 we received 5 samples by FedEx for the job referenced above. 5 samples were received in good condition.

The results in this analysis pertain only to this job, collected on the stated date and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC.

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial Consulting. In no event, shall Hayes Microbial Consulting or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of your use of the test results.

Steve Hayes, BSMT(ASCP)
Laboratory Director
Hayes Microbial Consulting, LLC



HAYES

MICROBIAL CONSULTING
3005 East Boundary Terrace, #F
Midlothian, VA 23112, USA
804.562.3435 Fax: 804.447.5562

SCI Engineering, Inc.
130 Point West Boulevard
St. Charles, MO 63301
Phone: (210) 660-7243

EPA 600/R-93, M-4/82-020 (PLM)

HMC #17008379

| | | |
|--|------------------------------------|-----------------------------------|
| Job Number: 15-0067.26 T200 | Job Name: FLW Building 1029 | Date Collected: 03/30/2017 |
| Collected by: Brian Leib | | Date Received: 03/31/2017 |
| Email: blieb@sciengineering.com | | Date Reported: 03/31/2017 |

| # | Sample | Name | Description | Asbestos Fibers | Other Fibers | Non- Fibers |
|---|--------|----------------------------|-----------------|-----------------|--------------------|-------------|
| 1 | 206-1 | Room 206 - Ceiling Texture | Texture / White | <1 % Chrysotile | <1 % Fibrous Other | 100 % |
| 2 | 226-1 | Room 226 - Ceiling Texture | Brittle / White | <1 % Chrysotile | (None Detected) | 100 % |
| 3 | 324-1 | Room 324 - Ceiling Texture | Brittle / White | <1 % Chrysotile | (None Detected) | 100 % |
| 4 | 325-1 | Room 325 - Ceiling Texture | Brittle / White | (None Detected) | (None Detected) | 100 % |
| 5 | 330-1 | Room 330 - Ceiling Texture | Brittle / White | <1 % Chrysotile | (None Detected) | 100 % |

Signature: 

Date: 03/31/2017

Reviewed by: 

Date: 03/31/2017



HAYES

MICROBIAL CONSULTING
3005 East Boundary Terrace, #F
Midlothian, VA 23112, USA
804.562.3435 Fax: 804.447.5562

SCI Engineering, Inc.
130 Point West Boulevard
St. Charles, MO 63301
Phone: (210) 660-7243

Asbestos - Additional Information

HMC #17008379

All samples were received in acceptable condition unless otherwise noted on the report. The Report must not be used by the client to claim product certification, approval, or endorsement by: AIHA, NIST, NVLAP NY ELAP, or any agency. The results relate only to the items tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data can be provided when requested. None detected: Below the detected reporting limit of 1% unless point counting is performed, then the detected, reporting limit is .25%. Per NY ELAP198.6 (NOB) TEM is the only reliable method to declare an NOB material as Non-Asbestos Containing. Hayes Microbial Consulting reserves the right to dispose of all samples after a period of 60 days in compliance with state and federal guidelines.

Signature: Reed

Date: 03/31/2017

Reviewed by: Stephen N. Hayes

Date: 03/31/2017



BULK ASBESTOS CHAIN OF CUSTODY

008379

130 Point West Boulevard
St. Charles, Missouri 63301
636-949-8200 Fax 636-949-8269
www.sciengineering.com

| Company : SCI Engineering, Inc. | | Please Provide Results Via: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail | | | |
|---|---------------------------------|--|---|-----------|----------|
| Street: 130 Point West Boulevard | | To: Brian Lieb | | | |
| City/State/Zip: St. Charles, Missouri 63301 | | Telephone #: 636-949-8200 Fax #: 636-949-8269 | | | |
| Project Name: FLW Building 1029 | | Email: blieb@sciengineering.com | | | |
| Project Number: 15-0067.26 T200 | | | | | |
| Turnaround Time (TAT) Options - Please Check One | | | | | |
| <input type="checkbox"/> 3 Hour | <input type="checkbox"/> 6 Hour | <input checked="" type="checkbox"/> 24 Hour | <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> Other _____ | | |
| PLM Bulk Analysis <input checked="" type="checkbox"/> PLM-EPA 600 <input type="checkbox"/> PLM-EPA 600 NOB <input type="checkbox"/> PLM-Point Count <input type="checkbox"/> Check Box for Stop Positive | | TEM Bulk Analysis <input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1 <input type="checkbox"/> Chatfield Protocol (semi-quantitative) | | | |
| Comments: | | | | | |
| Samplers Name: <i>Zach Uster</i> | | Samplers Signature: <i>[Signature]</i> | Date Sampled: <i>3/30/17</i> | | |
| Building Use/Description/Features: | | | Age: | | |
| Windows: | | Siding: | Roof: | | |
| | | Attic: | HVAC: | | |
| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
| 206-1 | Room 206 | Ceiling Texture | -- | Good | -- |
| 226-1 | Room 226 | Ceiling Texture | -- | Good | -- |
| 324-1 | Room 324 | Ceiling Texture | -- | Good | -- |
| 325-1 | Room 325 | Ceiling Texture | -- | Good | -- |
| 330-1 | Room 330 | Ceiling Texture | -- | Good | -- |
| Relinquished: <i>[Signature]</i> | | Date: <i>3/30/17</i> | Time: <i>2:00 pm</i> | | |
| Received: <i>[Signature]</i> | | Date: <i>3/31/17</i> | Time: | | |



contact@hayesmicrobial.com
<http://hayesmicrobial.com/>

Analysis Report prepared for

SCI Engineering, Inc.

**706 Broadway Street
Lowell, MA. 01854
Phone: (210) 660-7243**

**Job Number: 17-7007.25 T101
Job Name: FLW Building 1029
Date Sampled: 04-06-2017
Date Analyzed: 04-09-2017
Report Date: 04-10-2017**

EPA Laboratory ID# VA01419



NVLAP Lab Code: 500096-0



Asbestos License: 300435



License: #PH-0198



HAYES

MICROBIAL CONSULTING
3005 East Boundary Terrace, #F
Midlothian, VA 23112, USA
804.562.3435 Fax: 804.447.5562

HMC #17009122

**SCI Engineering, Inc.
706 Broadway Street
Lowell, MA 01854**

April 10, 2017

Client Job Number: 17-7007.25 T101
Client Job Name: FLW Building 1029

Dear SCI Engineering, Inc.,

We would like to thank you for trusting Hayes Microbial for your analytical needs. On April 7, 2017 we received 12 samples by FedEx for the job referenced above. 12 samples were received in good condition.

The results in this analysis pertain only to this job, collected on the stated date and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC.

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial Consulting. In no event, shall Hayes Microbial Consulting or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of your use of the test results.

Steve Hayes, BSMT(ASCP)
Laboratory Director
Hayes Microbial Consulting, LLC



HAYES

MICROBIAL CONSULTING
3005 East Boundary Terrace, #F
Midlothian, VA 23112, USA
804.562.3435 Fax: 804.447.5562

SCI Engineering, Inc.
706 Broadway Street
Lowell, MA 01854
Phone: (210) 660-7243

EPA 600/R-93, M-4/82-020 (PLM)

HMC #17009122

| | | |
|--|------------------------------------|-----------------------------------|
| Job Number: 17-7007.25 T101 | Job Name: FLW Building 1029 | Date Collected: 04/06/2017 |
| Collected by: Brian Lieb | | Date Received: 04/07/2017 |
| Email: blieb@sciengineering.com | | Date Reported: 04/10/2017 |

| # | Sample | Name | Description | Asbestos Fibers | Other Fibers | Non- Fibers |
|----|--------|--|-----------------------|-----------------|-----------------|-------------|
| 1 | 1 | SCA-1 Office Spray on Ceiling Texture | Granular / White/Gray | (None Detected) | (None Detected) | 100 % |
| 2 | 2 | SCA-2 Office Spray on Ceiling Texture | Granular / White/Gray | (None Detected) | (None Detected) | 100 % |
| 3 | 3 | SCA-3 Office Spray on Ceiling Texture | Brittle / Gray | (None Detected) | (None Detected) | 100 % |
| 4 | 4 | SCA-4 Open Rm Spray on Ceiling Texture | Texture / White/Gray | (None Detected) | (None Detected) | 100 % |
| 5 | 5 | SCA-5 Drying Area Spray on Ceiling Texture | Texture / White/Gray | (None Detected) | (None Detected) | 100 % |
| 6 | 6 | SCA-6 Open Rm Spray on Ceiling Texture | Texture / White/Gray | (None Detected) | (None Detected) | 100 % |
| 7 | 7 | SCA-7 Drying Area Spray on Ceiling Texture | Texture / White/Gray | (None Detected) | (None Detected) | 100 % |
| 8 | 8 | SCA-8 Corridor Spray on Ceiling Texture | Brittle / White | (None Detected) | (None Detected) | 100 % |
| 9 | 9 | SCA-9 Office Spray on Ceiling Texture | Brittle / White | (None Detected) | (None Detected) | 100 % |
| 10 | 10 | SCA-10 Office Spray on Ceiling Texture | Texture / White/Gray | (None Detected) | (None Detected) | 100 % |
| 11 | 11 | SCA-11 Office Spray on Ceiling Texture | Texture / White | (None Detected) | (None Detected) | 100 % |

Signature: 

Date: 04/09/2017

Reviewed by: 

Date: 04/10/2017



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| | | |
|--|------------------------------------|-----------------------------------|
| Job Number: 17-7007.25 T101 | Job Name: FLW Building 1029 | Date Collected: 04/06/2017 |
| Collected by: Brian Lieb | | Date Received: 04/07/2017 |
| Email: blieb@sciengineering.com | | Date Reported: 04/10/2017 |

| # | Sample | Name | Description | Asbestos Fibers | Other Fibers | Non- Fibers |
|----|--------|--|-----------------|-----------------|-----------------|-------------|
| 12 | 12 | SCA-12 Office Spray on Ceiling Texture | Texture / White | (None Detected) | (None Detected) | 100 % |

Signature: 

Date: 04/09/2017

Reviewed by: 

Date: 04/10/2017



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Asbestos - Additional Information

HMC #17009122

All samples were received in acceptable condition unless otherwise noted on the report. The Report must not be used by the client to claim product certification, approval, or endorsement by: AIHA, NIST, NVLAP NY ELAP, or any agency. The results relate only to the items tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data can be provided when requested. None detected: Below the detected reporting limit of 1% unless point counting is performed, then the detected, reporting limit is .25%. Per NY ELAP198.6 (NOB) TEM is the only reliable method to declare an NOB material as Non-Asbestos Containing. Hayes Microbial Consulting reserves the right to dispose of all samples after a period of 60 days in compliance with state and federal guidelines.

Signature: 

Date: 04/09/2017

Reviewed by: 

Date: 04/10/2017



BULK ASBESTOS CHAIN OF CUSTODY

PO

009122

130 Point West Boulevard
St. Charles, Missouri 63301
636-949-8200 Fax 636-949-8269
www.sciengineering.com

| Company: SCI Engineering, Inc. | | Please Provide Results Via: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail | | | |
|---|---------------------------------|--|---|-----------|-----------------|
| Street: 130 Point West Boulevard | | To: Brian Lieb | | | |
| City/State/Zip: St. Charles, Missouri 63301 | | Telephone #: 636-949-8200 Fax #: 636-949-8269 | | | |
| Project Name: FLW Building 1029 | | Email: blieb@sciengineering.com | | | |
| Project Number: 17-7007.25 T101 | | | | | |
| Turnaround Time (TAT) Options - Please Check One | | | | | |
| <input type="checkbox"/> 3 Hour | <input type="checkbox"/> 6 Hour | <input checked="" type="checkbox"/> 24 Hour | <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> Other _____ | | |
| PLM Bulk Analysis <input checked="" type="checkbox"/> PLM-EPA 600 <input type="checkbox"/> PLM-EPA 600 NOB <input type="checkbox"/> PLM-Point Count | | TEM Bulk Analysis <input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1 <input type="checkbox"/> Chatfield Protocol (semi-quantitative) | | | |
| <input type="checkbox"/> Check Box for Stop Positive | | | | | |
| Comments: - SEE DRAWING'S FOR SAMPLE LOCATIONS! P. 4/6/17 | | | | | |
| Samplers Name: RYAN FERNANDES | | Samplers Signature: <i>Ryan Fernandes</i> | Date Sampled: 4/6/17 | | |
| Building Use/Description/Features: DORMITORY/BARRACKS | | | Age: Size: | | |
| Windows: | Siding: | Roof: | Attic: HVAC: | | |
| Sample # | Material Location | Material Description | Approx. Quantity | Condition | Comments |
| 1 | SCA-1 (OFFICE) | SPRAY-ON CEILING TEXTURE | | GOOD | |
| 2 | SCA-2 (OFFICE) | ↓ | | ↓ | |
| 3 | SCA-3 (OFFICE) | | | | |
| 4 | SCA-4 (OPEN RM.) | | | | |
| 5 | SCA-5 (DRYING AREA) | | | | |
| 6 | SCA-6 (OPEN RM.) | | | | |
| 7 | SCA-7 (DRYING AREA) | | | | |
| 8 | SCA-8 (CORRIDOR) | | | | |
| 9 | SCA-9 (OFFICE) | | | | |
| Relinquished: R. FERNANDES | | | Date: 4/6/17 | | Time: 5:00 P.M. |
| Received: <i>[Signature]</i> 04/07/17 | | Date: | Time: | | |

Appendix B

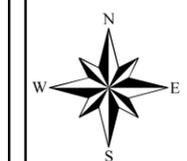


GENERAL NOTES/LEGEND

PROJECT NAME

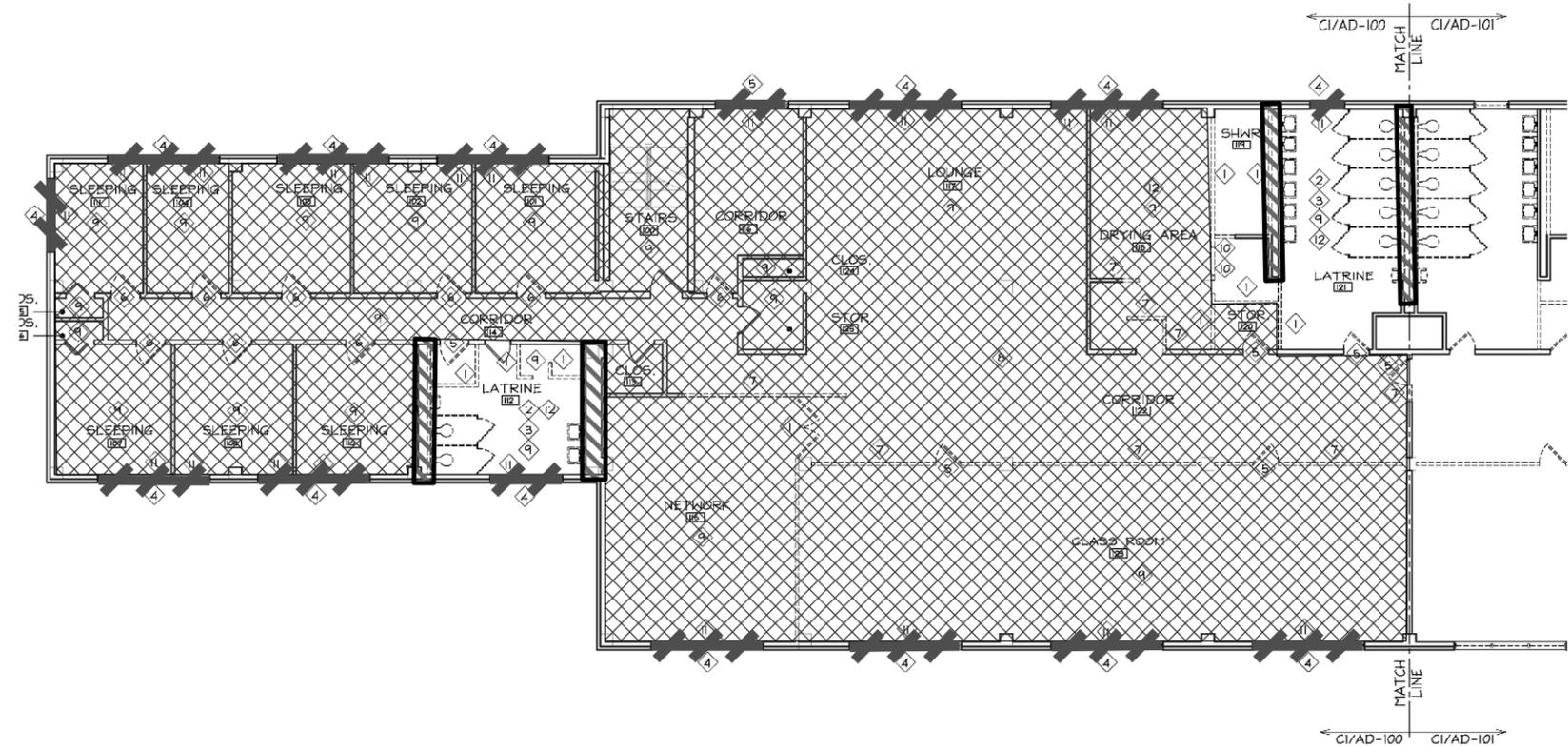
FLW BUILDING 1029 RENOVATIONS
FORT LEONARDWOOD, MISSOURI

ASBESTOS LOCATION MAP - FLOOR TILE & MASTIC,
TRANSITE PANELS AND PIPE INSULATION

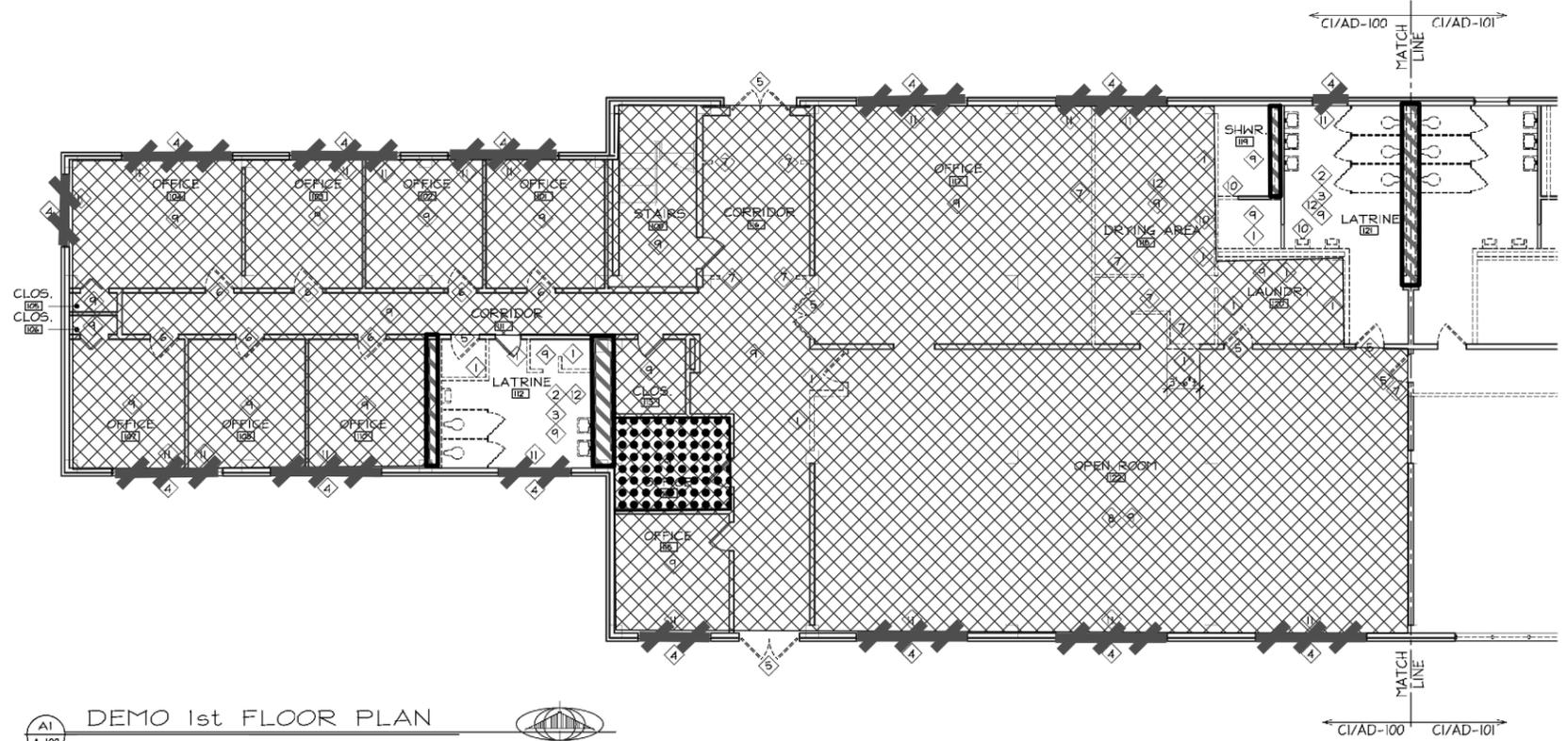


JOB NUMBER
2017-7007.25
DATE
05/2017
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RCV
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BLL
FIGURE
1

-  APPROXIMATE LOCATION OF 9" x 9" BROWN FLOOR TILE
-  APPROXIMATE LOCATION OF 9" x 9" GREEN FLOOR TILE WITH BLACK MASTIC
-  APPROXIMATE LOCATION OF PIPE INSULATION
-  APPROXIMATE LOCATION OF TRANSITE PANELS



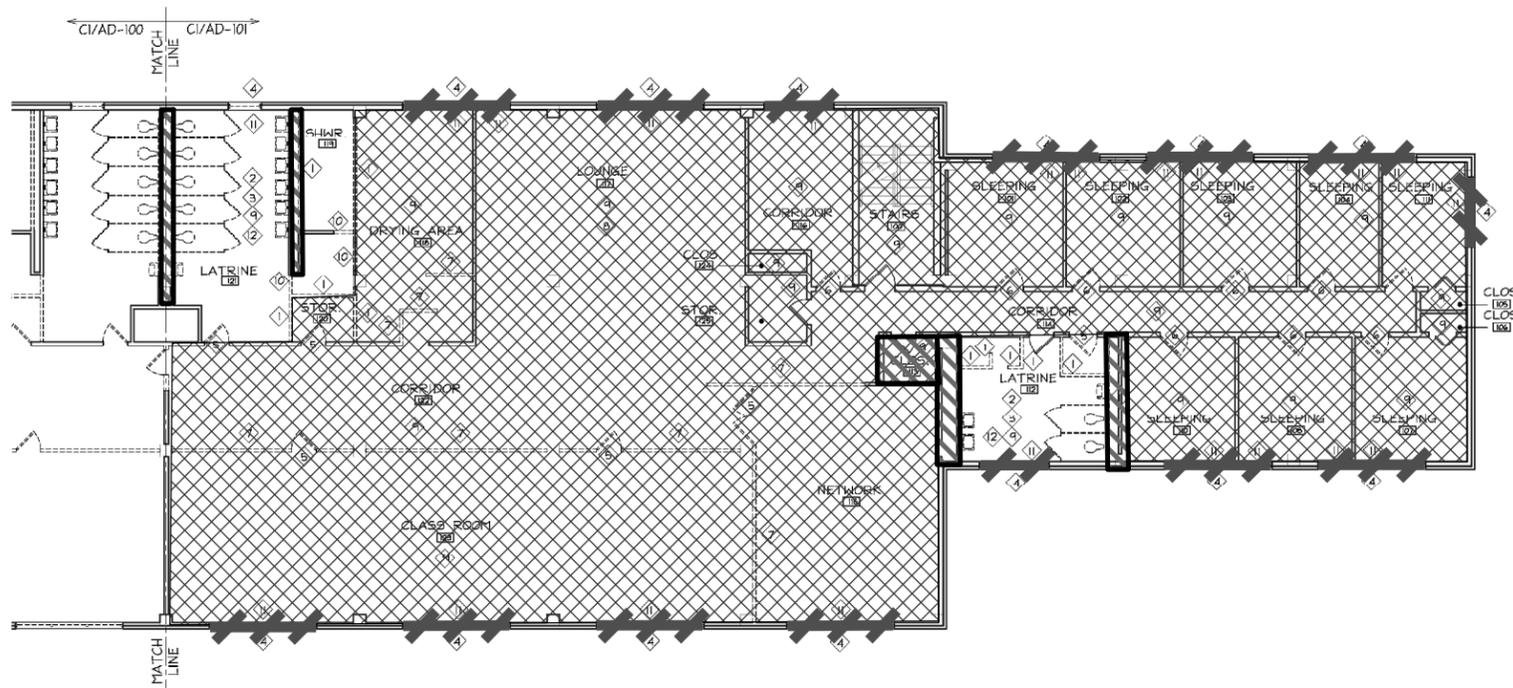
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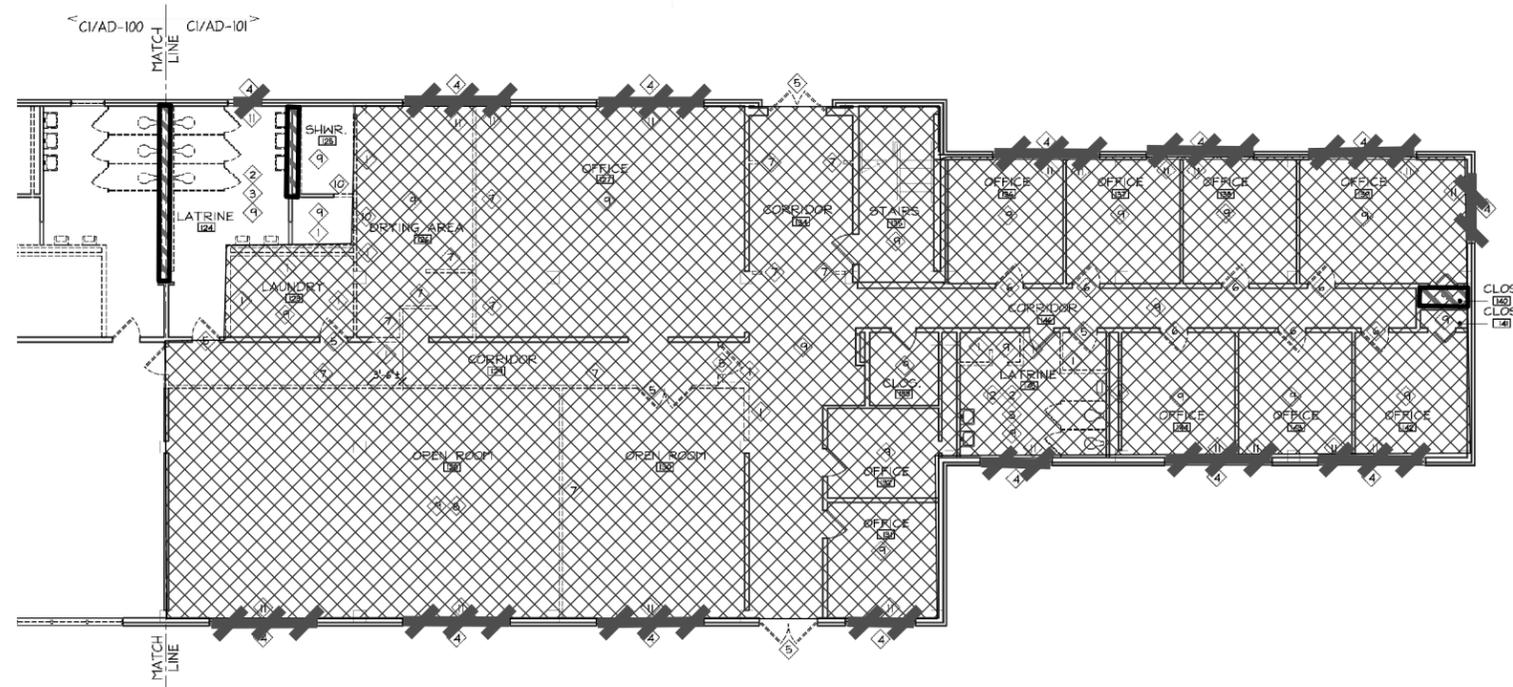
AI A-100 DEMO 1st FLOOR PLAN PLAN NORTH



-  APPROXIMATE LOCATION OF 9" x 9" BROWN FLOOR TILE
-  APPROXIMATE LOCATION OF PIPE INSULATION
-  APPROXIMATE LOCATION OF TRANSITE PANELS



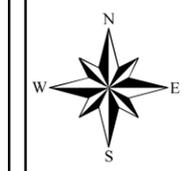
CI/AD-100 CI/AD-101
MATCH LINE
MATCH LINE
CI/AD-100 CI/AD-101
A1 A-100 DEMO 2nd FLOOR PLAN PLAN NORTH



CI/AD-100 CI/AD-101
MATCH LINE
MATCH LINE
CI/AD-100 CI/AD-101
A1 A-100 DEMO 1st FLOOR PLAN PLAN NORTH

GENERAL NOTES/LEGEND

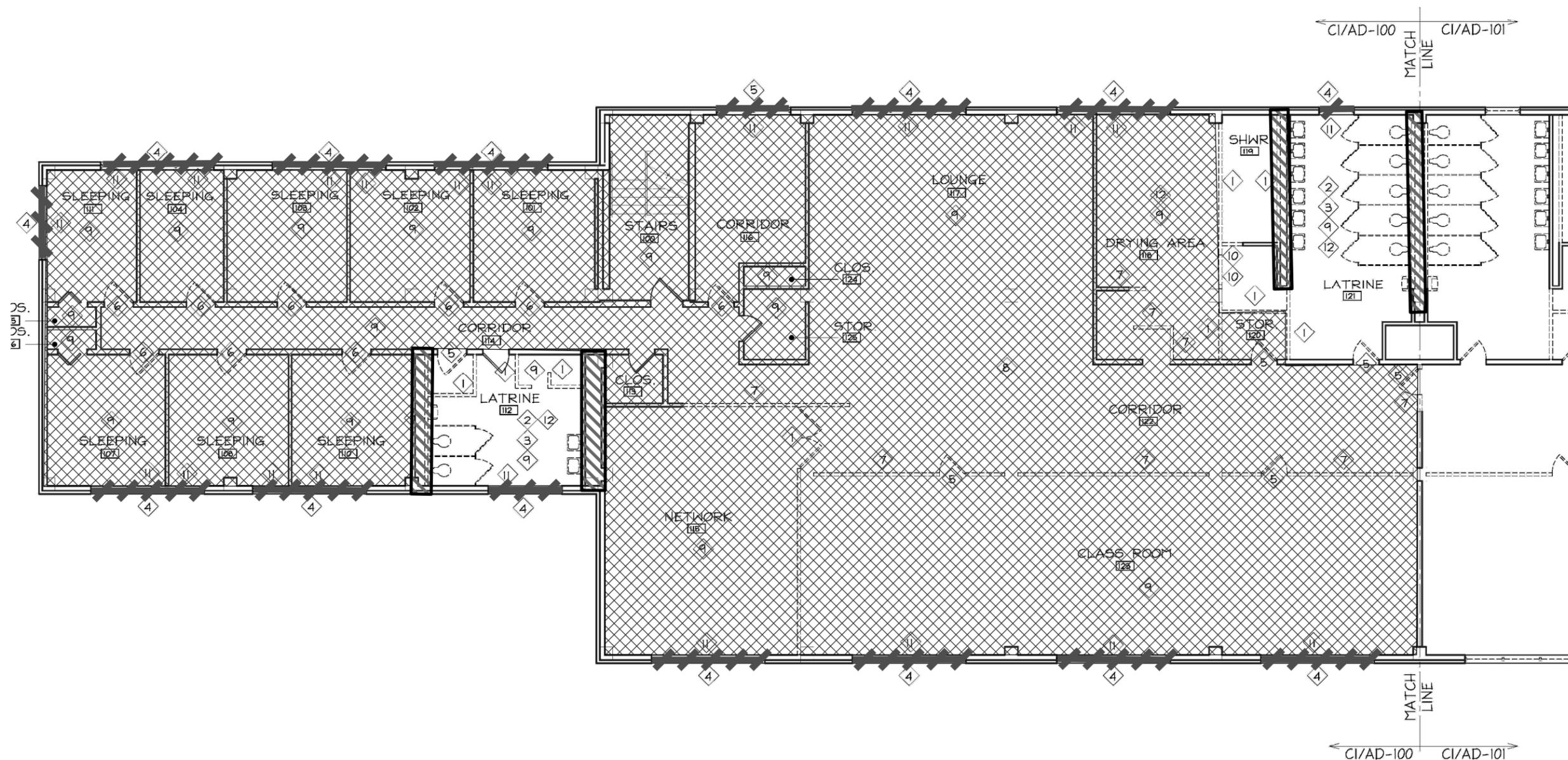
PROJECT NAME
FLW BUILDING 1029 RENOVATIONS
FORT LEONARDWOOD, MISSOURI
ASBESTOS LOCATION MAP - FLOOR TILE & MASTIC,
TRANSITE PANELS AND PIPE INSULATION



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FIGURE
2



-  APPROXIMATE LOCATION OF 9" x 9" BROWN FLOOR TILE
-  APPROXIMATE LOCATION OF PIPE INSULATION
-  APPROXIMATE LOCATION OF TRANSITE PANELS



CI A-100 DEMO 3rd FLOOR PLAN PLAN NORTH

GENERAL NOTES/LEGEND

PROJECT NAME
FLW BUILDING 1029 RENOVATIONS
FORT LEONARDWOOD, MISSOURI
ASBESTOS LOCATION MAP - FLOOR TILE & MASTIC,
TRANSITE PANELS AND PIPE INSULATION



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FIGURE
3



GENERAL NOTES/LEGEND

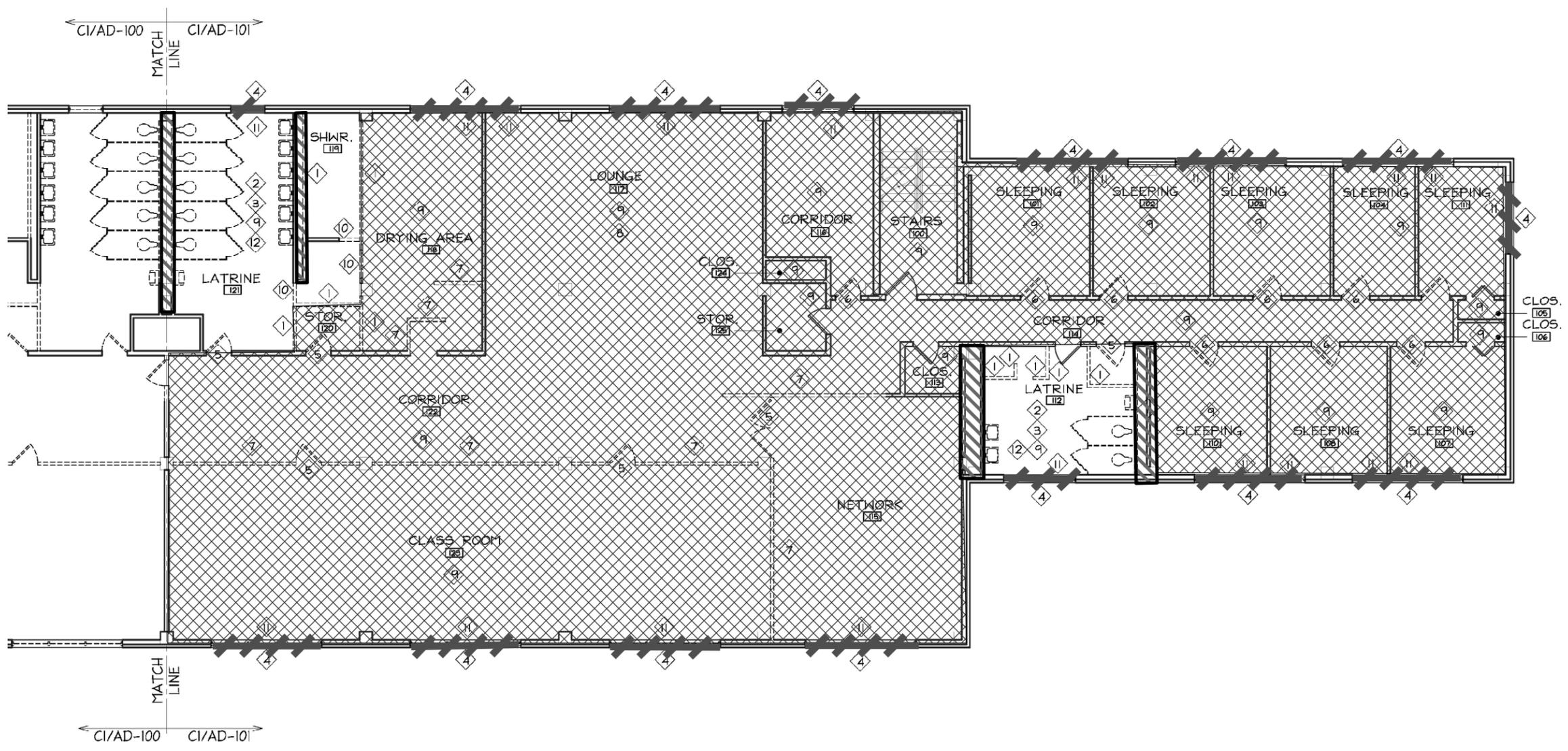
PROJECT NAME
FLW BUILDING 1029 RENOVATIONS
FORT LEONARDWOOD, MISSOURI

ASBESTOS LOCATION MAP - FLOOR TILE & MASTIC,
TRANSITE PANELS AND PIPE INSULATION

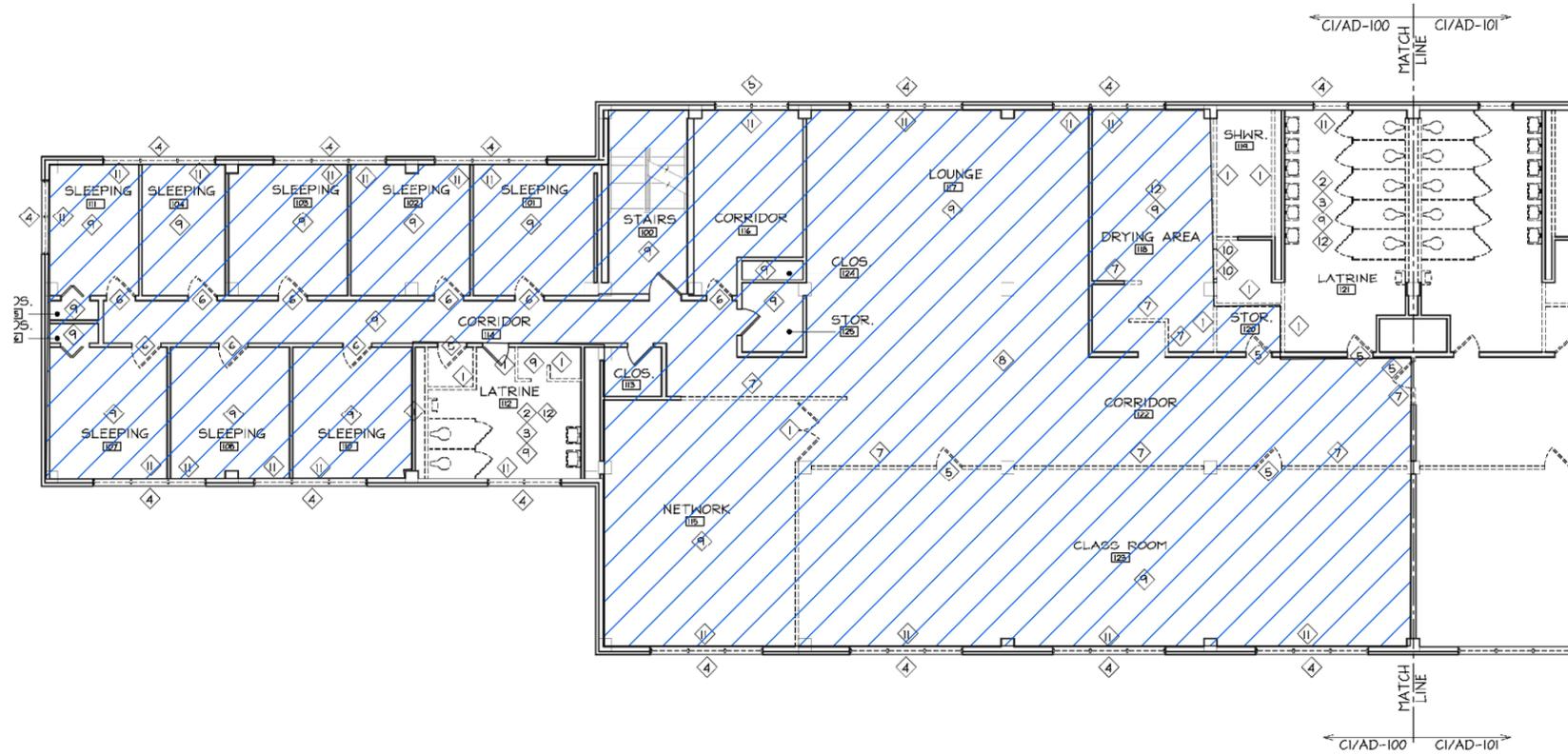


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FIGURE
4

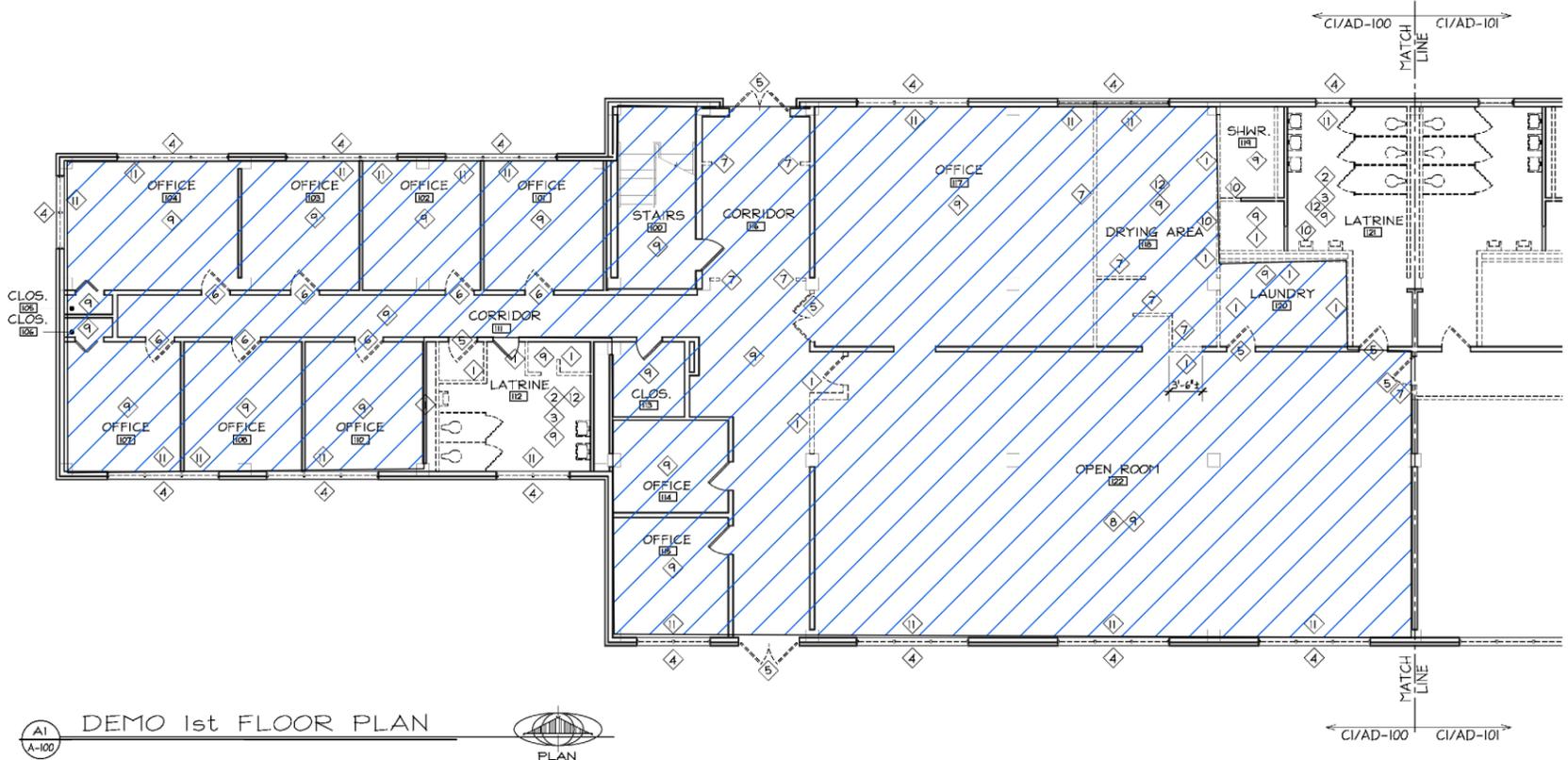
-  APPROXIMATE LOCATION OF 9" x 9" BROWN FLOOR TILE
-  APPROXIMATE LOCATION OF PIPE INSULATION
-  APPROXIMATE LOCATION OF TRANSITE PANELS



CI A-100 DEMO 3rd FLOOR PLAN PLAN NORTH



CI A-100 DEMO 2nd FLOOR PLAN PLAN NORTH



A1 A-100 DEMO 1st FLOOR PLAN PLAN NORTH

APPROXIMATE LOCATION OF CEILING TEXTURE

GENERAL NOTES/LEGEND

PROJECT NAME

FLW BUILDING 1029 RENOVATIONS
FORT LEONARDWOOD, MISSOURI

ASBESTOS LOCATION MAP - CEILING TEXTURE



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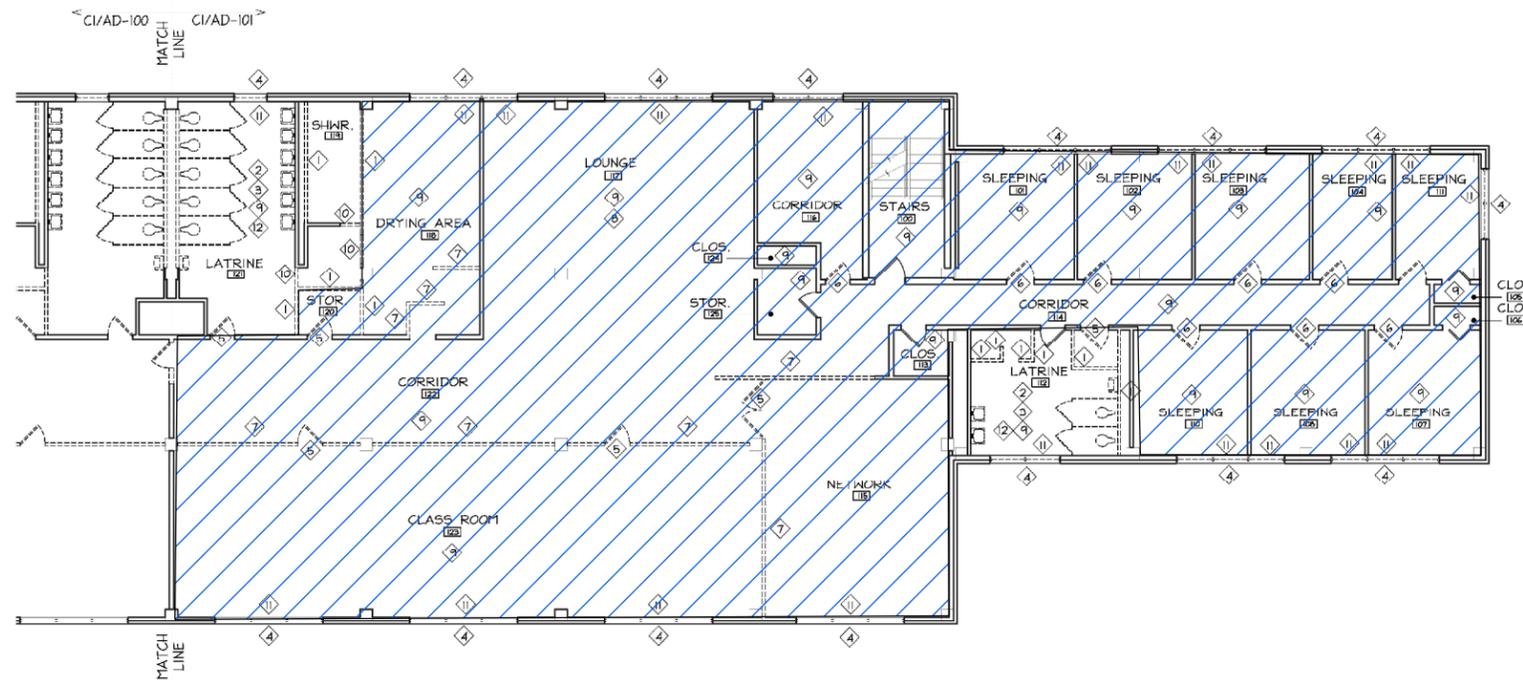
BLL

FIGURE

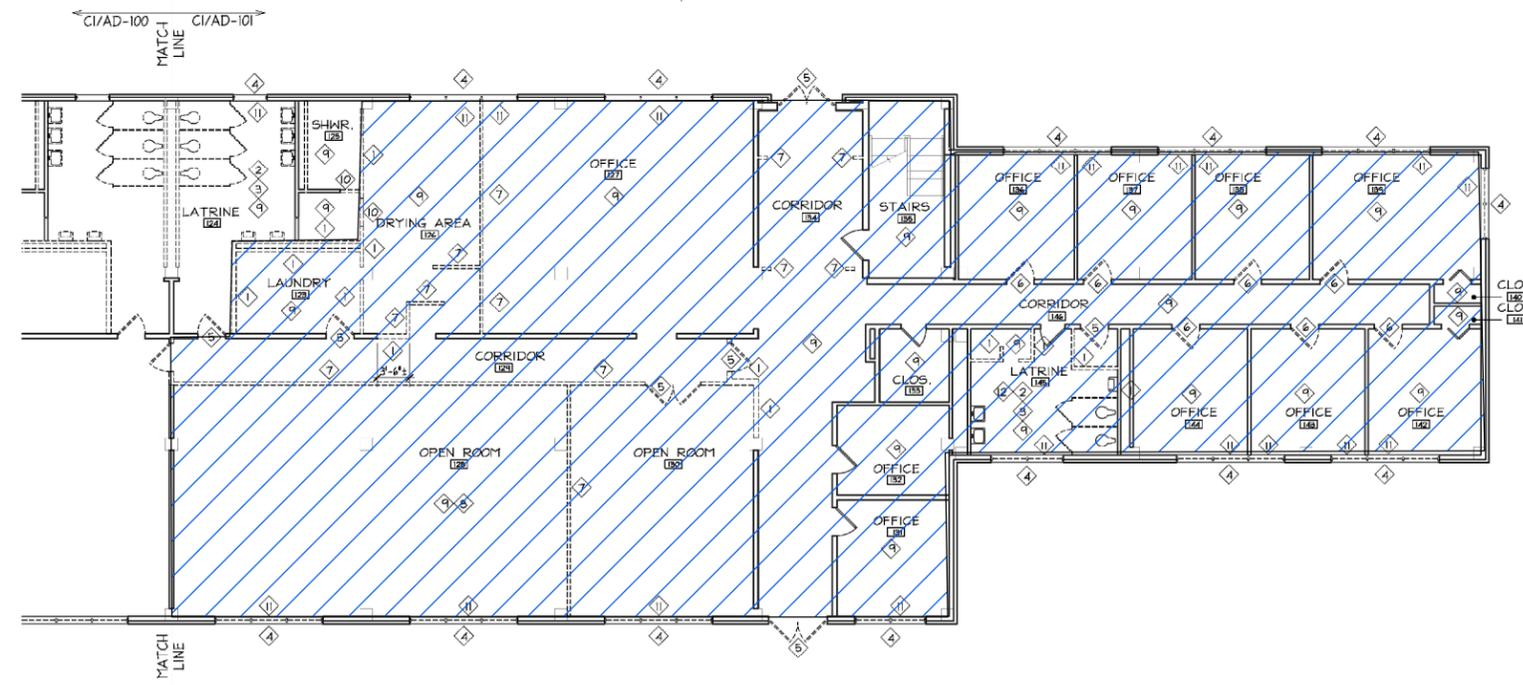
5



APPROXIMATE LOCATION OF
CEILING TEXTURE



C1
A-100
DEMO 2nd FLOOR PLAN
PLAN NORTH



A1
A-100
DEMO 1st FLOOR PLAN
PLAN NORTH

GENERAL NOTES/LEGEND

PROJECT NAME
FLW BUILDING 1029 RENOVATIONS
FORT LEONARDWOOD, MISSOURI

ASBESTOS LOCATION MAP - CEILING TEXTURE



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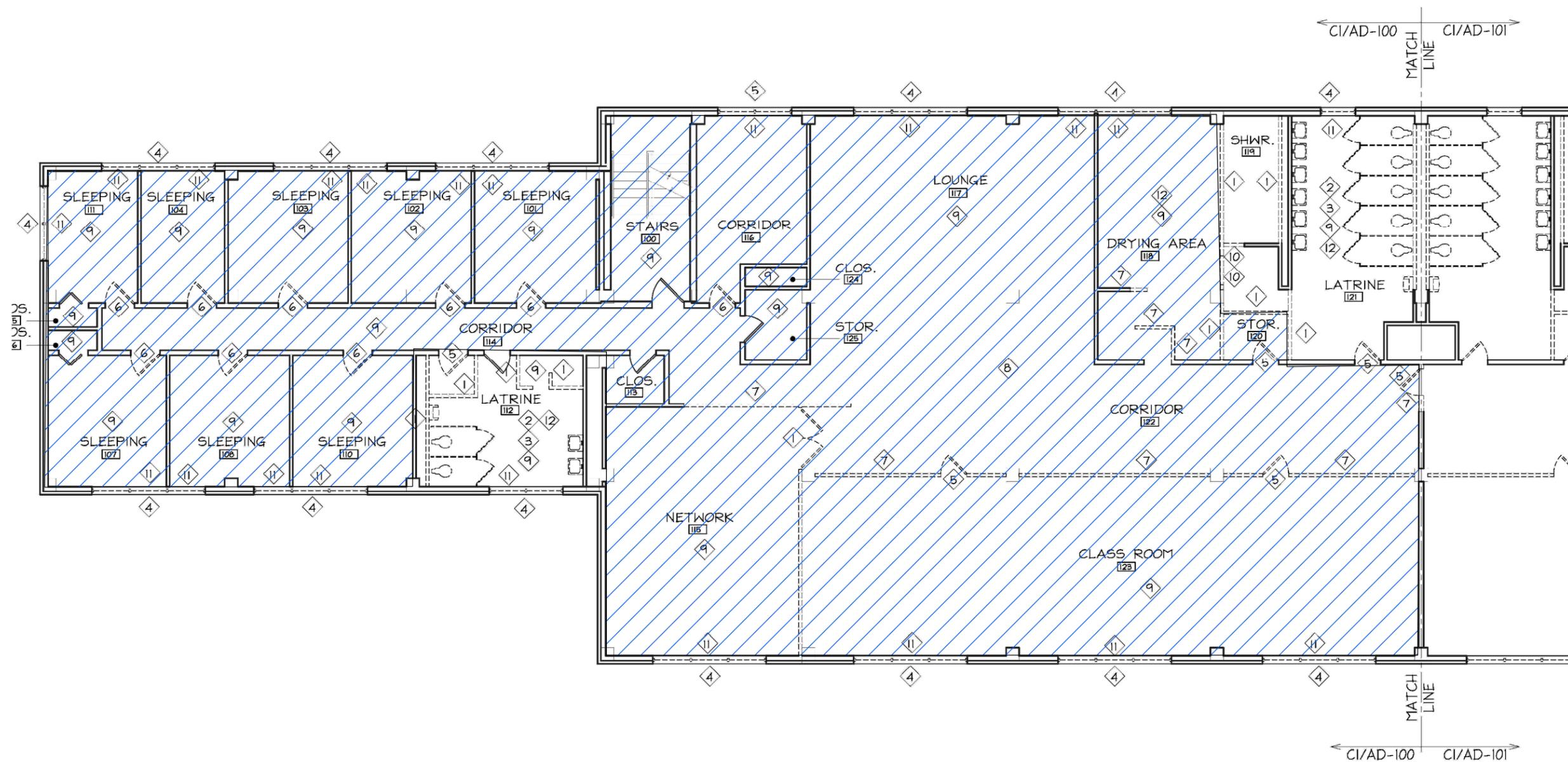
BLL

FIGURE

6



APPROXIMATE LOCATION OF CEILING TEXTURE



CI
A-100

DEMO

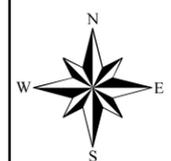
3rd FLOOR PLAN



GENERAL NOTES/LEGEND

PROJECT NAME
FLW BUILDING 1029 RENOVATIONS
FORT LEONARDWOOD, MISSOURI

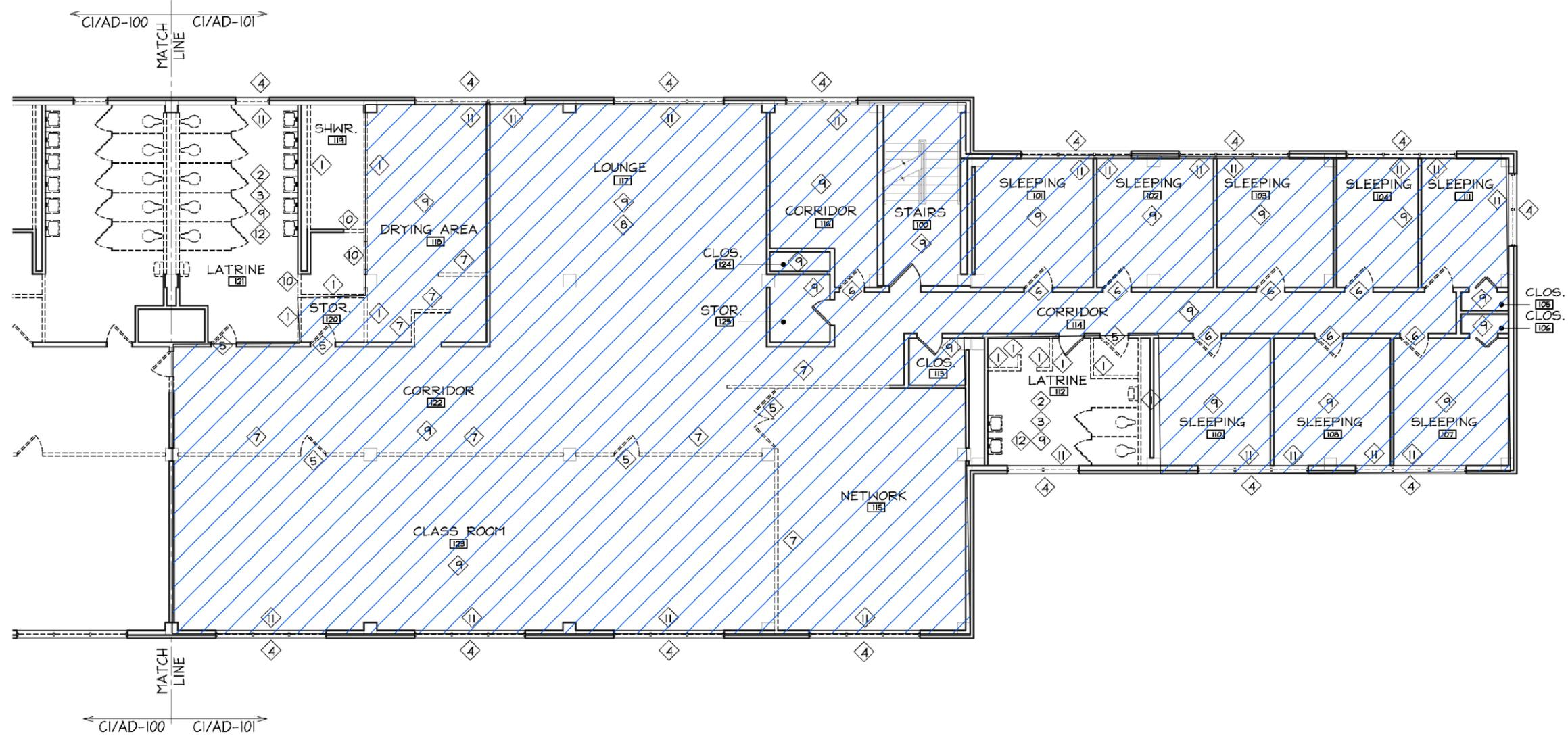
ASBESTOS LOCATION MAP - CEILING TEXTURE



| | |
|------------|--------------|
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| DATE | 05/2017 |
| DRAWN BY | RCV |
| CHECKED BY | BLL |
| FIGURE | 7 |



 APPROXIMATE LOCATION OF CEILING TEXTURE



CI
A-100

DEMO

3rd FLOOR PLAN



GENERAL NOTES/LEGEND

PROJECT NAME
FLW BUILDING 1029 RENOVATIONS
FORT LEONARDWOOD, MISSOURI

ASBESTOS LOCATION MAP - CEILING TEXTURE



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FIGURE

8